THE MARINE REVIEW

VOL. XXXV. CLEVELAND, APRIL 18, 1907. NO. 16

HULL INSURANCE.

Buffalo, April 16.—There are reports abroad to the effect that the hull insurance rates were being cut badly by a new company, so that there is a possibility of the business falling into a state of demoralization soon unless an understanding is effected somehow. The underwriters have heard the reports, but they say there is nothing to them. They not only have evidence that they are not true, but they say nobody in his senses would undertake the business for less than it is written for now. Perhaps the most direct evidence that no rival company exists is in the fact that the brokers who are loaded up most heavily with business are coming to the regular underwriters with it just as they formerly did.

There is not the cheerful outlook for the hull business this season that it should command, and this is one reason for believing that no reduction of rates is taking place. Possibly some small company is writing a little here and there, but unless it is wonderfully lucky there can be nothing but disaster in such a course. In fact it was never more difficult to place hulls at full rates than it is now. Steel hulls are taken by the companies very slowly, and it is so hard to get wood hulls placed that a great part of them will go uninsured, as it looks now.

There seems to have been a very bad misconception of how the business was running till lately. So much of it now goes over into the next season that it is not easy to calculate the result of any season. In fact some of the companies had an idea for awhile that they had made money in 1905, but the losses came in so fast the next spring that they very soon changed their minds. Of course the underwriters on the spot were very well aware of the state of things, but they cannot always make the companies, most of them out of the country, understand how business is shaping. Last season the hull business came out just about even, and yet so many of the losses of the previous season had to be paid then that it has been quite often regarded as bad.

A comparison of last season's hull rates with those adopted this season will show very readily that it will not answer to reduce the rates. Underwriters say that vessel owners very well know this, but they are all the same found complaining of rates whenever there is an opportunity. The addition of an eighth of a cent to the former rates, which is an increase of about 2.7 per cent to the charges, is pronounced no advance at all, when other things are considered.

There is a longer season allowed—to December 10, instead of December 5—which, with the $500 deductible average clause about makes up for that. If the underwriters make any money this season they will call themselves lucky. The extreme caution of the companies may accomplish something, but big losses would discount any sort of calculations.

It is not denied that something has been made on cargo insurance in late years, but it would be easy to show that it was a mere matter of luck. "What we are looking for," said a leading underwriter the other day, "is a total loss collision between big vessels and then our profits will disappear in a wink. Something like this will surely happen and when it does, it will take several years to recover from it. There will be a big package-freight liner going up with a matter of $500,000 worth of merchandise or more aboard and there will be a 500-footer coming down with a cargo of grain. They will meet and go down in deep water. With them will go from $1,250,000 to $1,500,000 and we shall have to pay for it all."

That something of the sort has not happened before this is regarded as remarkable and yet the underwriters claim to be quite unable to place their rates where they will take care of such a loss. Last season there were really but about two insured total losses and still the earnings were small. It is odd that the lakes cannot be placed on a basis as paying as the salt seas are. Whatever may have happened in the management of this business it does happen that very much the same people are at the head of the lake-underwriting offices that were twenty years ago and they are all talking in much the same discouraged way.

It appears that the uneasiness over the late tendency of the big steel steamers not insuring is over to a great extent. It is not denied that the volume of hull business offering is larger than it used to be, so that if the managers of the insurance business could come together solidly enough to insist, as they should, that vessel owners take the best possible care of their vessels, keep them in good repair, keep them out of the ice and the like,—there would then be a chance of profit in insurance, and after awhile lower rates.

JOHN W. CHAMBERLIN.

TONNAGE MEASURE REFORM.

The Board of Trade's bill to amend section 78 of the Merchant Shipping Act, 1894, with respect to the deduction of the space occupied by propelling power in ascertaining the tonnage of a ship has now been published. The full text is as follows:

1. The deduction under section 78 of the Merchant Shipping Act, 1894 (in this act referred to as the "principal act"), for the space occupied by the propelling power of a ship shall not in any case exceed 60 per cent of that portion of the tonnage of the ship which remains after deduction allowed under section 79 of the principal act.

2. (1) Where, in ascertaining the tonnage of a ship registered before the commencement of this act, a deduction has been made for the space occupied by the propelling power of the ship greater than the maximum deduction allowed under this act, the tonnage of the ship shall be recalculated on the basis of allowing the maximum deduction under this act instead of that prev-

Generated on 2024-08-28 13:30 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

iously allowed and the particulars and certificate of the registry of the ship shall be altered accordingly.

(2) The registrar of every port of registry shall make any alteration in the particulars of the registry of any ship registered at that port which is required for the purposes of this section, and shall send notice of the alteration so made to the managing owner of the ship.

(3) The managing owner of the ship on the receipt of any such notice of alteration, shall forthwith transmit the notice to the master of the ship, and the master of the ship, on receipt of the notice, shall produce it to the registrar of the port at which the ship is when the notice is received, if that port is a port having a registrar, and if not to the registrar of the first port having a registrar at which the ship arrives after the notice is received, and the registrar shall alter the certificate of registry of the ship in accordance with the notice.

(4) If the managing owner or master of a ship fails to comply with the provisions of this section, the managing owner or master, as the case may be, shall be liable on summary conviction in respect to each offense to a fine not exceeding £50.

(5) The expression "managing owner" in this section includes any person registered under section 59 of the principal act in cases where there is no managing owner.

3. (1) This act may be cited as the Merchant Shipping Act, 1907, and shall be construed as one with the principal act and the Merchant Shipping acts, 1894 to 1906, and this act may be cited together as the Merchant Shipping acts, 1894 to 1907.

(2) This act shall come into operation on the first day of January, 1908.

The steamship Bunker Hill, the second of three vessels under construction at Cramps', Philadelphia, for the New England Navigation Co., was launched recently, the steamer being christened by Miss Rose Elizabeth Fitzgerald, of Boston. The Bunker Hill is 375 ft. on the water line, 396 ft. over all, 52 ft. beam and 22 ft. deep. Her sisters are the Massachusetts, which was launched in January and the Old Colony, which will be launched next month.

The Roanoke, built by Furness, Withy & Co., Hartlepool, for the Chesapeake & Ohio Steamship Co., recently underwent her trials with marked success. This vessel is built on the shelter deck principle and exceeds 387 ft. in length. Her carrying capacity is 7,000 tons.

APPOINTMENTS OF MASTERS A ND ENGINEERS.

		CAPTAIN.	ENGINEER.
		CAPT. PETER LACROIX, PORT HURON, MICH.	
Bge.	William Brake	Peter LaCroix	
"	Jane Ralston	Charles Osborne	
		JOHN CORRIGAN, CLEVELAND, O.	
Str.	Aurania	R. C. Pringle	E. S. Cleveland
		JAMES A. MADDIGAN, BUFFALO, N. Y.	
Str.	Canisteo	James A. Maddigan	Joseph R. Hall
Sch.	A. A. Carpenter	John Mason	
"	Myron Butman	John Burke	
		HUGH R. HAVEY, DETROIT, MICH.	
Str.	Miami	H. Huyser	J. Palmer
"	W. P. Thew	M. Trombly	D. Barron
"	Ionia	William McLean	B. Aldrich
Sch.	Gebhardt	William Duncan	
		W. S. BRAINARD, TOLEDO, O.	
Str.	Cherokee	James Mara	J. S. Robertson
Sch.	Chippewa	Lewis P. Bang	
		WILLIAM MUELLER, BLANEY, MICH.	
Str.	Mueller	Frank Elliott	
Sch.	Butcher Boy	H. K. Woerpel	
		J. G. KEITH & CO., CHICAGO, ILL.	
Str.	Parks Foster	J. W. Ibester	Melbourne Crisp
		RIDEAU LAKE NAV. CO., KINGSTON, ONT.	
Str.	Rideau Queen	Edward Fleming	Joseph Noonan
"	Rideau King	D. Pritchard	Thomas Simmons
		GRAY TRANS. CO., CLEVELAND, O.	
Str.	Arizona	W. R. Neal	Michael Walsh
Sch.	Scotia	Carl Jorgenson	
"	Plymouth	Andrew Bigger	
		LAKE MICHIGAN CAR FERRY TRANS. CO., CHICAGO, ILL.	
Str.	Pere Marquette 16	Fred Johnson	Herbert Rasch
"	S. M. Fischer	M. Emerson	Fred Greene
Bge.	No. 2	A. Boblin	
		W. P. REND & CO., CHICAGO, ILL.	
Str.	William P. Rend	Edward Evans	George Carr
"	Panther	John Crangle	
		CLEVELAND & OSCODA TRANS. CO., DETROIT, MICH.	
Str.	City of Holland	A. J. Cotton	Joseph Meno Sr.
"	Douglas	George H. Ferguson	W. Winterhalter
		W. F. HORN, CHICAGO, ILL.	
Str.	City of Fremont	Ed Fitch	Edward Halley
		NIAGARA NAVIGATION CO., TORONTO, ONT.	
Str.	Cayuga	John McGiffin	George M. Arnold
"	Chippewa	C. J. Smith	Harry Parker
"	Corona	William Malcolm	A. J. Woodward
		THE WILSON TRANSIT CO., CLEVELAND, O.	
Str.	Charles S. Hebard	W. W. Dawley	Fred M. Harmon
"	Henry W. Oliver	C. H. Fraenke	Frank C. Stoeber
"	Capt. Thomas Wilson	J. S. Wood	W. E. Donovan
"	Andrew Carnegie	Daniel Buie	James F. Derrig
"	W. D. Rees	E. R. Morton	Charles Annable
"	Yuma	John Milne	S. E. Mayberry
"	Spokane	J. McArthur	Charles J. Snyder
		THE VOLUNTEER TRANSIT CO., CLEVELAND, O.	
Str.	Charles Beatty	High McKenzie	Gilbert McPhail
		J. U. KARR, CLEVELAND, O.	
Bge.	Donaldson	Capt. Tousley	
"	Fanny Neil	Charles Anderson	
		HUTCHINSON & CO., CLEVELAND, O.	
Str.	D. R. Hanna	William P. Benham	R. J. Smith
"	Joseph G. Butler Jr.	James Murphy	Walter G. Thorn
"	John Stanton	C. H. Heaton	P. F. Lyons
"	William A. Paine	Emil Detlefs	George Blauvelt
"	Martin Mullen	Charles A. Benham	Anton Rudd
"	City of Glasgow	John A. Logan	Fred Tetro
Sch.	Abyssinia	T. K. Woodward	
		NORTON TRANSIT CO., CLEVELAND, O.	
Str.	David Z. Norton	Thomas Wilford	James Falconer
		THE RICHARDSON TRANSPORTATION CO., CLEVELAND, O.	
Str.	W. C. Richardson	John H. Babbitt	A. C. Bowen
"	Roumania	B. R. Walker	A. J. Schryver
		W. C. RICHARDSON, CLEVELAND, O.	
Str.	J. H. Wade	C. C. Mason	Henry Landers
"	J. H. Devereaux	John E. Stover	Thomas Shannon
"	Iroquois	Enos J. Burke	L. L. Bowen
Sch.	Mary B. Mitchell	John McKeighan	
"	Crete	George Mackie	
		THE JACKSON TRANSIT CO., CLEVELAND, O.	
Str.	Samuel Mitchell	William Hagen	James Bennett
Sch.	Chickamauga	Harry W. Phillips	
		GILBERT LACROIX, MT. CLEMENS, MICH.	
Str.	A. D. Hayward	George C. Burns	George Stromble

Generated on 2024-08-28 13:30 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

APPOINTMENTS OF MASTERS AND ENGINEERS.

		CAPTAIN.	ENGINEER.
		SOUTH SIDE LUMBER CO., CHICAGO, ILL.	
Str.	Philetus Sawyer	J. F. Higgie	A. J. Smith
		CHARLES LONSBY, MT. CLEMENS, MICH.	
Str.	Ida E.	H. D. Moore	Joseph Menou
		ROBERT DOWNEY & CO., OSWEGO, N. Y.	
Str.	Monteagle	T. J. Carlisle	William S. Brown
		M. J. CUMMINGS, OSWEGO, N. Y.	
Str.	Western Star	P. J. Griffin	Martin Griffin
		GREEN BAY TRANSPORTATION CO., GREEN BAY, WIS.	
Str.	Fannie C. Hart	Joseph W. Carrigan	Charles Denis
"	Eugene C. Hart	Charles A. Graves	John Enderby
		M. SICKEN, MARINE CITY, MICH.	
Str.	George King	William Burns	H. Manion
"	S. K. Martin	J. Marsreau	M. Owen
"	M. Sicken	J. Kuhn	J. McDonald
Sch.	Teutonia	H. Lawrence	
"	Thomas Gawn	J. Lawrence	
"	D. Pendell	J. Chartran	
"	C. Spademan	J. Bond	
"	G. Whitney	O. W. Thompson	
"	Melvina	J. Rose	
"	L. Rawson	S. Smith	
"	St. Joseph	M. Sicken	
"	E. J. McVea	J. Glass	
		THOUSAND ISLAND & ST. LAWRENCE RIVER STEAMBOAT CO., KINGSTON, ONT.	
Str.	America	James F. Allen	William Hartley
"	Jessie Bain	Milo D. Estes	Barney Farrell
"	New Island Wanderer	W. C. Hudson	
"	Islander	M. W. Evans	Nicholas Larson
"	Ramona	John Bertrand	
		L. P. GRAVES, BUFFALO, N. Y.	
Str.	Mohegan	James Cunningham	William Schumaker
Bge.	Aloha	James O. Roberson	
"	John A. Francombe	James O. Roberson	
Bge.	Mingo	Andrew Scott	
"	Annabell Wilson	Andrew Scott	
		GUY WHITE, N. TONAWANDA, N. Y.	
Str.	Edward Smith	C. D. Miller	Charles Smith
		ERICK ERICKSON, RACINE, WIS.	
Sch.	J. A. Holmes	Erick Erickson	
		WISCONSIN TRANSPORTATION CO., SHEBOYGAN, MICH.	
Str.	Brazil	R. Rieboldt	A. J. Wilson
"	Bulgaria	William Mackin	D. L. McLennan
		C. F. FORSTER, MILWAUKEE, WIS.	
Str.	J. W. Westcott	W. G. Inglis	W. M. Martin
		MICHIGAN SALT TRANSPORTATION CO., MILWAUKEE, WIS.	
Str.	Pere Marquette 3	H. L. Sanders	Edw. Heinlein
"	Pere Marquette 4	Melvin Mackey	W. J. Reardon
"	Pere Marquette 6	Edw. Skiels	E. A. Jahns
		WM SCHLOSSER, MILWAUKEE, WIS.	
Sch.	George J. Boyce	O. M. Hansen	
"	C. H. Haskley	Nels G. Norem	
"	City of Sheboygan	Peter Peterson	
"	Stafford	Louis Thorsen	
"	Minerva	Hans Peterson	
		O. E. PARKS, MICHIGAN CITY, IND.	
Str.	O. E. Parks	O. E. Parks	Robert Elliott
		T. HURLEY, DETROIT, MICH.	
Str.	Majestic	Hugh J. Hagan	Thomas Purvis
Sch.	Monguagon	H. H. Pope	
		BYRON WHITAKER, DETROIT, MICH.	
Str.	Byron Whitaker	George H. Page	Dexter Blauvelt
		WILLIAM H. SHARP, BAY CITY, MICH.	
Str.	J. P. Donaldson	Charles Rattray	John Fettig
Bge.	A. W. Wright	Sherman Williams	
"	Dayton	A. J. Young	
		BUCKLEY & DOUGLAS, MANISTEE, MICH.	
Str.	Edward Buckley	Charles Gnewuch	Ernest Smith
		CANADIAN PACIFIC CAR & PASS. TRANS. CO., PRESCOTT, ONT.	
Str.	International	William Henry	Thomas Murphy
"	Armstrong	H. M. Russell	Henry Carter
"	City of Bellville	A. Black	George Siche
"	Henry Penono	Frank O'Neil	A. Graves
"	Euting	W. E. Chambers	C. Bailey
		GOODRICH TRANSPORTATION CO., CHICAGO, ILL.	
Str.	Christopher Columbus	Charles E. Moody	George McLaughlin
"	Virginia	E. E. Redner	J. Peroutka
"	Carolina	Con. McCauley	Dolph Zeitsch
"	Indiana	Edw. Taylor	Charles Monroe
"	City of Racine	J. A. Wilson	Charles Clark
"	Iowa	William Plummer	J. Buschman
"	Georgia	A. E. Johnston	G. Suckow
"	Sheboygan	T. G. Baldwin	Archie Galbraith
"	Chicago	Chris Fowler	Thomas Dorey

ELECTRICITY AT JAMESTOWN.

Electric power for the approaching exposition at Jamestown like that at the Buffalo Pan-American fair, will come from a distance. Having no Niagara to rely upon, however, power for the Jamestown exposition will be furnished by steam turbines located in the power-house of the Norfolk Railway & Light Co., about seven miles from the exposition grounds. This fair will be the first at which the electric power will be generated by steam turbines. The machines will be of the Curtis type, these as well as the complete electrical equipment being supplied by the General Electric Co.

The exposition authorities have entered into a contract with the Norfolk Railway & Light Co. to furnish all the electricity required for illumination and power purposes. The electricity generated at their Jamestown power-house will be transmitted on specially constructed lines to a model sub-station in machinery hall. Here will be located the transforming and distributing apparatus. This equipment consists of a large air-cooled transformer, many smaller, type H, transformers for general illumination as well as constant current transformers for the series-arc lighting system which will be used for public illumination. At the sub-station also are motor-generator sets to provide direct current for the operation of searchlights and small motors where they may be installed by exhibitors.

The switchboard for controlling the various circuits throughout the exposition grounds is located in a gallery and is typical of modern switchboard engineering. All the electrical machinery follows standard lines similar to that installed at the St. Louis, the Pan-American and other American expositions.

Those who have seen the plans of the Jamestown exposition, predict that the electrical features, particularly for public illumination, will equal if not excel, the display at the famous Pan-American exposition. Thousands of Edison lamps will be supplemented by searchlights both on land and on the fleets anchored in Hampton Roads, combining to make the nightly pageant magnificent and beautiful.

The two automatic steam towing machines that the Chase Machine Co., of Cleveland, are building for shipment to Harland & Wolff, Belfast, for installation on Standard Oil Co.'s vessels, building there, will weigh twenty-six tons each and will be fitted with 2¼-in. diameter steel hawsers, each 3,200 ft. long. The two hawsers are used lashed together in the manner adopted by the Standard Oil Co. in recent towing across the Atlantic and around the Horn from New York to San Francisco.

Generated on 2024-08-28 13:37 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

SOME RECENT SCHERZER ROLLING LIFT BRIDGES.

During the past several years there has been a tendency both in the United States and abroad to replace center-pier swing bridges with modern bascule bridges. The limitations and disadvantages of the swing bridge are inherent in the type of structure and make it unsuitable for modern railroad traffic. The principal disadvantages of the swing bridge are:

1. The center-pier and protection pier obstruct navigation, consequently delaying both the railroad and water traffic.

2. The swing bridge forms an anomaly in engineering in that two channels must be spanned where only one channel is required.

3. As the swing bridge revolves horizontally, it very often encroaches upon the very valuable land and water space.

4. A swing bridge must always be kept narrow so as not to fill up and obstruct too much of the waterway.

5. A swing bridge must be discarded, removed and replaced as soon as increased traffic requires additional tracks. For this reason the average life of a swing bridge is limited to from five to ten years.

6. Swing bridges cannot be constructed adjacent to or alongside of each other as they must be kept far enough apart not to strike each other when revolving.

7. When opened, the swing bridge is liable to be knocked from its supporting pier and placed out of service by passing vessels.

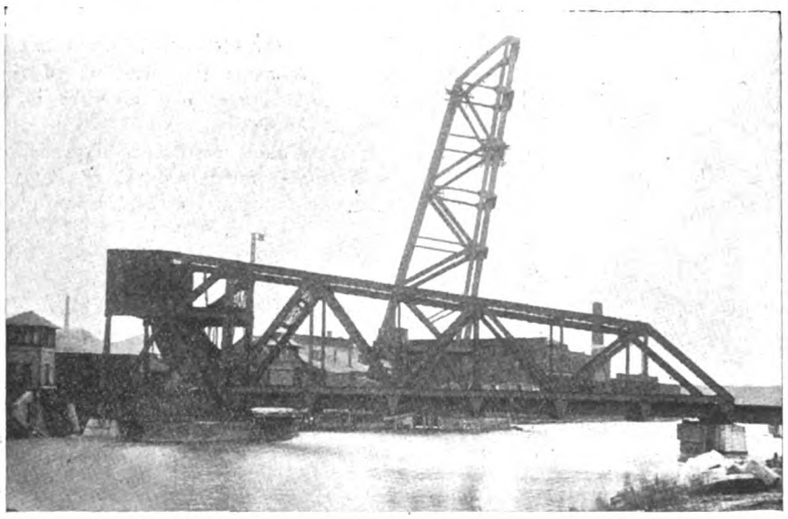


FIG. 1.—SHOWING THE BRIDGE DURING ERECTION WHILE NEARING COMPLETION. THE BRIDGE IN THE FOREGROUND IS THE NEWBURG & SOUTH SHORE RAILWAY CO.'S BRIDGE IN THE CLOSED POSITION.

These objections to the swing bridge have been overcome by the modern Scherzer rolling lift bridges which we have described from time to time since the first four-track bridge of this type was constructed for the Metropolitan West Side Elevated Railroad Co., at Chicago, in 1895.

An article on bridges of this type was published in December, 1904, illustrating and describing the double-track Scherzer rolling lift bridge at that time completed and placed in service for the Newburgh & South Shore Railway Co. across the Cuyahoga river, at Cleveland, O. In connection with that article a plate was published showing the location of the new bridge and also showing the adjacent single-track center-pier swing bridge of the C. T. & V. railroad, a constituent of

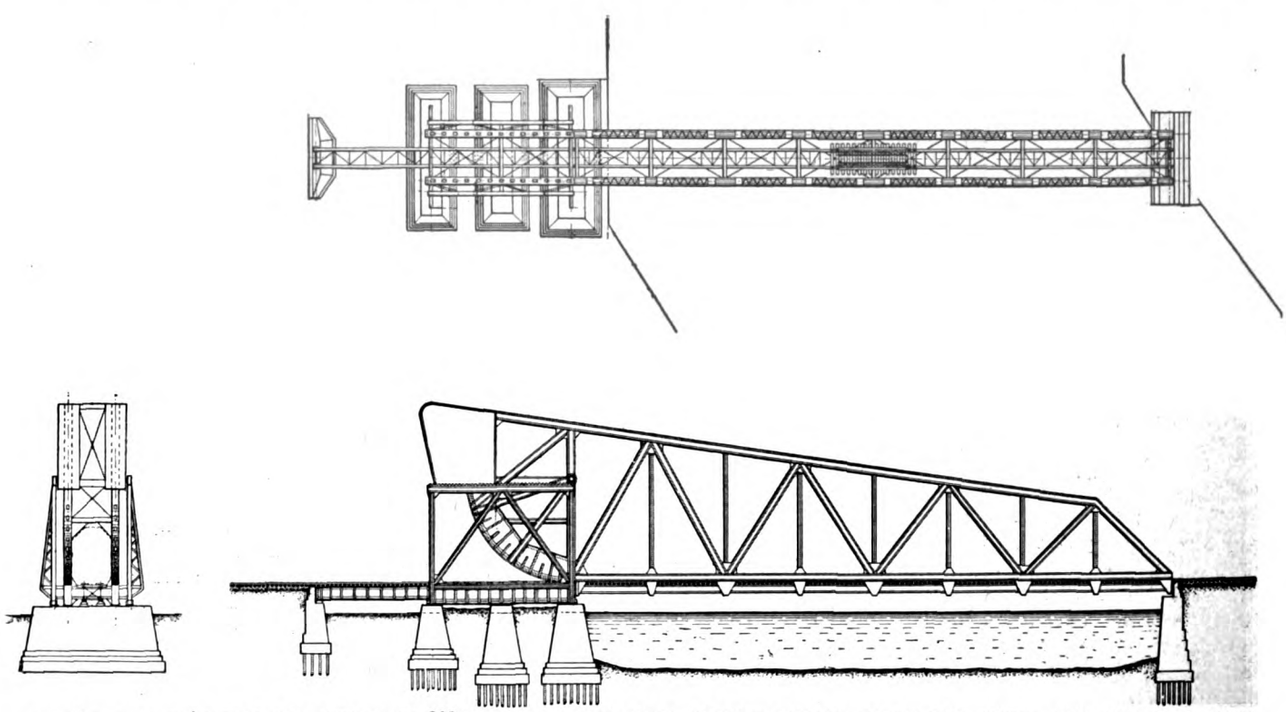


FIG. 2.—PLAN, ELEVATION AND SECTION OF 230-FT. SPAN SINGLE LEAF SCHERZER ROLLING LIFT BRIDGE ACROSS THE CUYAHOGA RIVER AT CLEVELAND FOR THE BALTIMORE & OHIO RAILROAD.

Generated on 2024-08-28 13:28 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

the Baltimore & Ohio Railroad Co.

The complete success of the Scherzer rolling lift bridge constructed for the Newburgh & South Shore Railway Co. induced the Baltimore & Ohio Railroad Co. to decide to remove their center-pier swing bridge and replace the same with a double-track bridge of the Scherzer type to accommodate the rapidly increasing traffic of the railroad company. The new bridge is virtually of the same dimensions as the Newburgh & South Shore Railway Co.'s bridge, the principal difference being in the method of counterweighting. In the latter bridge the counterweight consists of a concrete composition enclosed and protected by steel plates. The bridge consists of a simple truss, the movable span being 160 ft. center to center of bearings. It is designed to carry the heaviest modern railroad loadings. It is operated by electric motors.

Fig. 1, herewith, shows the bridge during erection while nearing completion. It was erected in the upright position. The bridge in the foreground is the Newburgh & South Shore Railway Co.'s bridge, in the closed position. The new Baltimore & Ohio Railroad Co.'s bridge was placed in service in September, 1906.

The bridge was constructed under the charge of Mr. J. E. Greiner, assistant chief engineer of the Baltimore & Ohio system. The Scherzer Rolling Lift Bridge Co., of Chicago, furnished the designs, plans and specifications for the superstructure, operating machinery and operating equipment, also furnishing consulting engineering services. The King Bridge Co., of Cleveland, were the contractors for the superstructure.

A duplicate of this Scherzer rolling lift bridge is now being constructed for the government railways at Port Soudan, Africa. Two similar double-track Scherzer rolling lift bridges are being constructed for the Buenos Ayres Great Southern railway at Buenos Ayres, Argentine Republic; also a long span double-leaf bridge for the Burma railways, India.

The New York, Chicago & St. Louis Railway Co. are also constructing a similar double-track Scherzer rolling lift bridge across the Cuyahoga river at Cleveland to take the place of a single-track swing bridge on their main lines through the city of Cleveland. The base of rail of this bridge will be 70 ft. above the river. Only a partial opening of the new bridge will therefore be required for even the tallest masted vessels.

The Baltimore & Ohio Railroad Co. is constructing a very long span single-leaf Scherzer rolling lift bridge to take the place of a center-pier swing bridge across the old channel of the Cuyahoga river. The new bridge is being erected in its open position and does not interfere with or delay either the railroad or vessel traffic through the old swing bridge. The new bridge is rapidly nearing completion and when completed will be closed and placed in service without any delay to the railroad or water traffic.

The movable span of this bridge is 230 ft. long, measured from center to center of bearings. The general design and dimensions are shown in Fig. 2, herewith. It is the longest span single-leaf bascule bridge yet constructed. It is only exceeded in length of span by the double-leaf Scherzer rolling lift bridge in operation across the Chicago river at the entrance to the Grand central station, constructed in 1900, the movable span, center to center of bearings of this bridge being 275 ft. The long spans in both of these instances are required because the railroad tracks cross the channel at acute angles.

The four-track Scherzer rolling lift bridges constructed for the New York, New Haven & Hartford railroad at Cos Cob, Conn., and at Westport, Conn., and the first double-track portion of the four-track Scherzer rolling lift bridge across the Housatonic river have all been placed in service within the past year. Other four-track bridges of the Scherzer type are under construction for this railroad company across Neponset river, Massachusetts; Niantic river, Connecticut; Seekonk river, Rhode Island, and six-track bridges across the Bronx river and across Eastchester bay, New York. All of these new bridges take the place of center-pier swing bridges. The new bridges are designed to carry with increased safety the greatly expanding passenger and freight traffic of the railroad company and also facilitate traffic over the company's electrified lines.

Substantial progress is being made in the construction of two double-track Scherzer rolling lift bridges for the Norfolk & Western Railway Co. over the eastern and southern branches of the Elizabeth river at Norfolk, Va., and upon the two similar bridges for the Brooklyn Rapid Transit System, Brooklyn, New York.

The numerous other railroad, electric railway and highway Scherzer rolling lift bridges for which the Scherzer Rolling Lift Bridge Co. is furnishing the designs, plans and specifications and consulting engineering services in the United States and abroad indicates that the coming year will be more active and will call for a larger tonnage of structural steel, machinery steel, and electrical, gasoline and other power equipments than during any passed year.

QUESTIONS FOR MASTERS AND MATES—NO. 36.

521. What is the principle of the quadrantal corrector, and what is it composed of?

522. Would any kind and grade of iron answer for this purpose?

523. Supposing the deviation was Wly. on NE and SW after you had adjusted for N, S, E and W, how would you place the soft iron correctors?

524. Is it important to have the compass in the amidship fore and aft line of the ship? Why?

525. Supposing the compass was not in the same line with the keel or exactly parallel therewith, what would be the result?

526. What is meant by parallax in regard to the compass?

527. How would you go at it to place a compass in the amidship fore and aft line of the ship?

528. What is meant by above the pole; for example, the North Star is above the pole?

529. What is meant by the sun's altitude?

530. About what is the altitude of the North Star on the Lakes?

The Mills' Engaging and Disengaging Gear for boats, launches, which has been approved by the United States board of supervising inspectors, is handled in this country by A. P. Lundin, 17 Battery Place, New York.

George Somerville, of the Merchants Line and the Merchants, Montreal & Lake Superior line, has announced that the steamers Persia and Cuba have been sold to Quebec firms. The Persia will run between Montreal and Quebec, while the Cuba will be engaged in the pulp trade between Quebec and American ports.

The Saginaw Bay Transportation Co., owners of the barge R. Bottsford, have begun libel in the United States court at Cleveland against the steamer Fayette Brown, charging that the Brown was the cause of the three-cornered collision between the Bottsford, the Huron and the Brown in St. Marys river last October.

Mr. Emory W. Clark has been appointed a director of the D. & C. Navigation Co.

Generated on 2024-08-28 13:28 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

THE MARINE REVIEW

DEVOTED TO EVERYTHING AND EVERY INTEREST CONNECTED OR ASSOCIATED WITH MARINE MATTERS ON THE FACE OF THE EARTH.

Published every Thursday by

The Penton Publishing Co.

CLEVELAND.

BUFFALO ..... 932 Ellicott Sq.
CHICAGO ..... 1362 Monadnock Blk.
CINCINNATI ..... 124 Government Place.
NEW YORK ..... 150 Nassau St.
PITTSBURG ..... 521 Park Bldg.
DULUTH.

Correspondence on Marine Engineering, Ship Building and Shipping Subjects Solicited.

Subscription, $3.00 per annum. To Foreign Countries, $4.50.
Subscribers can have addresses changed at will.

Change of advertising copy must reach this office on Thursday preceding date of publication.

The Cleveland News Co. will supply the trade with the MARINE REVIEW through the regular channels of the American News Co.

European Agents, The International News Company, Breams Building, Chancery Lane, London, E. C. England.

Entered at the Post Office at Cleveland, Ohio, as Second Class Matter.

April 18, 1907.

INLAND WATERWAYS.

Never have the river and harbor improvements of this country received such an incentive as the announcement of the appointment of a commission to examine into the improvement and control of the river systems of the United States. This, it is believed, is really the only recognition given these improvements by a chief executive of this country, although late, it is hoped that the object will be accomplished all the more readily. Taking into consideration the millions of dollars already spent in carrying on this work, and the number of years it has been in progress, it seems remarkable that earlier attention was not given these improvements. For importance, it is doubtful if there is another public work deserving of more consideration. Only within the last few years has the press given this matter space, consequently few persons have any idea of its magnitude and value.

The railroad agitation, which is occupying so much space in the newspapers, will, no doubt, prove a turning point in favor of the inland waterways, a subject that is, and has been for years, receiving careful study and development in other countries. While the European countries have been enlarging their canals, et cetera, this country has been neglecting them. Our forefathers were able to see much farther than we do today—they built canals, while we practically allow them to decay. There are miles of canals in this country that are not much better than useless, simply through neglect; whereas, if properly improved, they would be of great value.

In speaking of canals, it must not be forgotten that the state of New York shows its faith in such waterways by appropriating over $100,000,000 for enlarging its principal canal. There are other states that could greatly improve their internal conditions by maintaining canals, improving rivers, or digging new canals. But most of the states depend on the federal government for all internal-waterway improvements, and it is this dependence that must be credited with much of the indifference shown these important works.

Rivers and canals lying wholly within the limits of one state should be taken care of by that state, because the benefits are generally enjoyed by its people. A recent case is the Little Kanawha river. The entire length of that river lies in West Virginia; still, the government paid $75,000 for four locks and dams, and is expending over $150,000 in placing the structures in a condition for use. Here is a case where the federal government is spending thousands of dollars in the improvement of a river the benefits of which are local. Another case in point is the Kanawha river. Over four millions were spent in its improvement, and about $50,000 annually for maintenance; for what purpose? To develop the coal lands of West Virginia. When the state of Ohio turned the Muskingum river over to the United States, the locks and dams were in a state of decay. This was a case of benefiting a state that could well have looked after its own public improvements. There are many other cases of a similar nature.

It is these local improvements that are diverting the funds from important rivers and harbors. Rivers like the Mississippi and the Ohio are of national importance, and are deserving of improvement by the general government. There is no doubt of the advisability of every navigable river and harbor being under government control; but the small streams, especially those within the limits of a state, should either be improved by the states benefited or not improved until after the more important waterways have received the attention they deserve.

No doubt the commission appointed by Mr. Roosevelt will bring the desired change as to improvements; the small streams and insignificant harbors be given an opportunity to wait, and those of real value the attention that is their due. However, it is not only that the important rivers and harbors should have first consideration, but the methods for carrying on this work also deserve the attention of the commission.

Of what avail are inland waterways if their cost is greater than the benefits obtained? Thus far, river and harbor improvements have been costly, and it is believed unreasonably so. Lack of system, lack of interest, lack of appreciation of the work in hand, have all tended to making these improvements almost failures. Works that should have received the indorsement of every public man, have always been looked on as inconsequential. River and harbor improvements should be thoroughly investigated, and it is believed, that such an investigation will separate the undeserving from the deserving. This will be work for the commisison, but it should be agreeable work. If it accomplishes nothing else than this separation, the commission will justify its existence.

But there is much important work

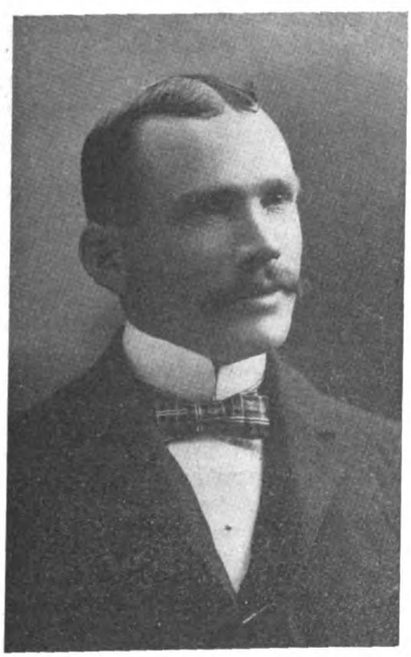
Generated on 2024-08-28 13:26 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

for the Inland Waterways Commission, not the least of which will be to put river and harbor improvements on a business basis.

To the railroads we owe much, and they must be credited with the inception of the Inland Waterways Commission.

CAPT. H. J. KELLEY.

It seems particularly appropriate that Capt. H. J. Kelley should have as his first charge the steamer Wawatam, as he commenced his sailing career on the boats of the old Lake Superior Iron Co., of which the Wawatam was one; working up through the various



CAPT. H. J. KELLEY.

grades—deckhand, watchman, wheelsman, second mate and mate. He is a prominent member of the Ship Masters' association, last year holding the office of grand second vice president of that body.

It has been intimated that when Capt. Kelley adopted a sea-faring life, the theatrical profession lost a bright and shining light, as he is a mimic of no mean order and is famous for his stories from Duluth to Buffalo. His friends—who are legion—wish him every possible success with his first steamboat.

Crowell & Murray, of Cleveland, have taken over the entire laboratory equipment and the good will of the business of Dr. Otto Wuth, of Pittsburg, on account of the continued ill health of Dr. Wuth.

LUMBER RATES.

The opening rate of lumber from the head of the lakes has been fixed at $2.50 by the Lumber Carriers' Association. The schedule follows:

Head of lakes to lower Lake Michigan	$2.50
Head of lakes to river ports and Lake Erie	2.50
East half Lake Superior to districts named above	2.25
Georgian bay ports to districts named above	2.00
Lake Huron to rivers and Lake Erie	1.87½
Georgian bay to Lake Michigan and Lake Erie (free on rail)	2.00
Georgian bay to Lake Michigan and Erie (when taken from dock)	2.12½
Upper Lake Michigan to rivers and Lake Erie	2.12½
Lower Lake Michigan to rivers and Lake Erie	2.25
Rate from head of lakes to Lake Ontario, 50c over Buffalo rate.	
From head of lakes to Oswego and Kingston, 75c over Buffalo rate.	
Head of lakes to Bay City (no change)	2.25
Upper Lake Michigan to Chicago, dry lumber	1.75
Upper Lake Michigan to Chicago, green lumber	1.87½
Georgian bay to Chicago	2.12½
Lake Huron to Chicago	1.87½
Lake Huron to Lake Erie	1.87½
Georgian Bay to Lake Erie	2.12½
Upper Lake Michigan to Lake Erie	2.12½

An advance of a quarter of a cent is made on cedar posts, and an increase of a half cent on cedar ties.

PACKARD'S CASE.

George W. Pfohl, of Buffalo, purchased the cargo of 1,270 tons of anthracite coal in the steamer Packard lying in Pigeon bay, Lake Erie, since last fall. The deal was made by the underwriters. Pfohl chartered the sand sucker Desmond to recover the coal cargo, but the Desmond is now held up by the Canadian authorities at Amherstburg, the Canadian government insisting upon a bond guaranteeing the removal of the hull as well as the cargo before work is begun to recover the coal. Leatham & Smith, Sturgeon Bay, Wis., are preparing to float the boat and hope to realize enough on the sale of the coal under general average to break even on the expense of raising the steamer. This provides sufficient complication to make the subsequent proceedings of interest to the parties involved.

A mud scow, in tow of the tug George Cooper, crashed into the steamer Norwalk at Cleveland Saturday night and damaged a number of planks. The Norwalk is being repaired at No. 3 dry dock.

CAPT. W. E. STOVER.

Capt. Stover will sail the Pittsburg Steamship Co.'s steamer Corsica this season. He has done most of his sailing in boats of that company, being second mate and mate in the line until given command of the steamer A. D. Thompson, afterwards sailing the Colgate, Hoyt and Joliet.

Capt. Stover has established quite a reputation for heroism, the saving of no less than three lives being placed to his credit. In 1898, while second mate of the steamer Empire City, he saved, at great personal risk, the lives of two colored women, whose skiff had been swamped by the waves from a passing side-wheeler in the St. Clair river. In 1903, he rescued a sailor who had fallen into the river at Conneaut from a stage plank. He had

CAPT. WALTER E. STOVER.

been stunned by the fall, and it was only after repeatedly diving into the muddy water that Stover succeeded in bringing the senseless body to the surface.

His friends wished to claim for him the medal of the Carnegie Hero Commission, but desisted owing to the strenuous objections of the gallant captain, whose modesty is his strong point.

The New Canadian Lake line will bring the foreign-built steamers Morena, Nevada and Corunna to the lakes this year. The other four steamers of this fleet are the J. H. Plummer, A. E. Ames, H. M. Pellett and Arabian. Frank Plummer, of Toronto, is general manager of the company. H. A. Young, late traffic manager of the Montreal & Lake Superior line, has been appointed to a similar position with the new company.

Generated on 2024-08-28 13:28 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

EAST AND WEST COURSES ON THE LAKES

The committee of captains of the Lake Carriers' Association, officially known as the Auxiliary Committee on Aids to Navigation, have recommended that east and west courses be established on the great lakes, and have so communicated with President Livingstone. According to the plan recommended by the committee, upbound vessels would follow the present course, while down-bound vessels would follow an outer course. So far these courses have been defined only insofar as Lake Superior and Lake Huron are concerned. It is recommended that down-bound vessels on Lake Superior steer a course that will carry them to a point eight miles north of Devil Island and fourteen miles north of Copper Harbor. Downbound vessels on Lake Huron would steer a course that would take them twelve miles off Thunder Bay Island, and twelve miles off Harbor Beach. These courses would increase the length of the run on Lake Superior by eleven miles and on Lake Huron by eight miles. Separate courses are obviously of paramount importance in thick weather, but the captains recommend that they be followed at all times, because vessels are liable at any time to be overtaken by fog.

Further recommendation has also been made which the committee of captains would like to have incorporated in the pilot rules for the great lakes. It is to the effect that during thick and foggy weather two steamers meeting, the steamer which is to the leeward shall keep out of the way of the steamer to windward. The steamer to leeward has no difficulty in receiving signals and therefore of being aware of the intentions of the steamer to windward, while the steamer to windward may be unable to hear the signals of the steamer to leeward.

These recommendations of the captains are now being given earnest consideration by owners. Those that have been approached look upon them with favor. During his recent trip abroad Mr. Coulby was much impressed with the distinct lines followed by the liners on the western ocean on their easterly and westerly trips. He is favorably inclined to the establishment of a similar system on the lakes and will take the subject up with his captains. J. H. Sheadle, of the Cleveland Cliffs Iron Co., is also favorably impressed and will consult with his masters about it. Capt. John Mitchell, who will take personal charge of the operation of his fleet of twenty-one vessels during the coming season, has given the new system his cordial endorsement. Other vessel owners are favorably inclined, but obviously it would have to be adopted by all of them to be effective. The recommendations as communicated to President Livingstone are as follows:

"The following suggestion is recommended by your Auxiliary Committee on Aid to Navigation:

"On account of the numerous collisions which have occurred in the usual path used by east and west bound vessels on Lake Superior and Lake Huron, we recommend that east bound vessels steer courses which will take them to the following turning points:

"East bound vessels leaving the head of Lake Superior will steer a course that will carry them to a point not less than eight (8) miles north of Devil Island;

"Thence steer a course that will carry them not less than fourteen (14) miles north of Copper Harbor;

"Thence to the usual turning point at Whitefish.

"Vessels leaving Chequamegon Point will steer a course that will intersect the down bound course fourteen (14) miles north of Copper Harbor;

"Thence a course to the usual turning point at Whitefish.

"Lake Huron: East bound vessels leaving Detour will steer a course which will take them to a point not less than twelve (12) miles off Thunder Bay Island when abreast. Thence a course which will carry them not less than 12 miles off Harbor Beach.

"Thence a course to Lake Huron Lightship.

"When abreast of Nine (9) Mile Point:

"From abreast of Nine Mile Point, Straits of Mackinaw, east bound steamers will steer a course carrying them not less than eight (8) miles off Presque Isle, which course will intersect with the down bound course from Detour at that point;

"Thence a course to a point twelve (12) miles off Thunder Bay Island;

"Thence a course to a point not less than twelve (12) miles off Harbor Beach;

"Thence a course to Lake Huron Lightship.

"In running the courses recommended to east bound vessels on Lake Huron, the extra distance to be run over and above the usual course which has been steered in the past would only amount to about eight (8) miles, and on Lake Superior the extra distance would amount to about eleven (11) miles.

"We recommend that these courses be steered at all times for the reason that if vessels use the usual paths taken in the past, fog is liable to overtake them when a portion of the distance might be covered, which would necessarily cause them to haul out and possibly be the means of causing more or less trouble. Also by so doing they would be running a greater number of miles than by steering the courses recommended. Weather conditions, of course, to be taken into consideration at all times by the masters.

"We also recommend that the Department of Commerce and Labor adopt the following rule to be applied to the present Pilot Rules for the Great Lakes:

"During thick and foggy weather, two steamers meeting, the steamer which is to leeward shall keep out of the way of the steamer to windward."

NAVIGATING THE LIME KILN CROSSING.

The government has completed the excavation of the western half of the 600-ft. channel through the Lime Kiln crossing and owners are now instructing their masters as to changed condition of navigation there. Representatives of the Pittsburg Steamship Co. have run the course in company with C. Y. Dixon, assistant government engineer, and have discovered that there is a cross current setting to westward near the lower lightship. It is suggested that masters watch their port-wheel. Also at and in the vicinity of the upper lightship the current sets over and stronger to eastward, where the starboard wheel must be watched, as the current has a tendency to sag the ship off to eastward bodily. Owing to these cross currents ships must navigate at a speed to be fully under control, say six or seven miles an hour. It is suggested that upbound ships avoid meeting downbound boats at the crossing if possible, especially in the vicinity of the upper lightship. It is advised that all upbound consorts when loaded have a tug to steer them over the crossing. President Harry Coulby, of the Pittsburg Steamship Co., has accordingly

Generated on 2024-08-28 13:27 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

issued the following order to his masters:

"Boats will not load to exceed eighteen six for the Sault river and Lime Kiln crossing on the first trip. The shoalest water in the lower Detroit river this year will be over Ballard's reef and Bar Point and navigation through the Lime Kiln crossing will be confined to the westerly three hundred feet. The cross current will be much greater this year than last and boats should maintain a speed of not less than six or seven miles per hour."

The Lake Carriers' Association through President Livingstone has printed a circular setting forth sailing directions for crossing the Lime Kilns during the present year which will be sent to all owners in sufficient quantities to be distributed to each one of their masters. The circular, which is as follows, is accompanied by a chart of the crossing showing exactly the position of the buoys and lights for 1907:

"The United States government having completed the excavation of the west half of the 600 foot channel through Lime Kiln crossing to a depth of 21 feet at a Lake Erie stage of 571 feet above mean tide at New York, equivalent to about 22.5 feet at the average midsummer level of the river, a rearrangement of aids to navigation became necessary. This work has now been completed and the aids to navigation are all in position for the year 1907.

"Lime Kiln Crossing Light-Vessels Moved: The north light-vessel has been moved about 200 feet N 76° W from its former position, and the south light-vessel has been moved about 400 feet S 59° W from its former position. In their new positions these light-vessels mark the west bank of the new channel at the north and south ends of the rock cut; and they are about 3,200 feet apart.

"Sailing Directions: A vessel coming up the river will hereafter keep the Elliott Point range lights in one until reaching the alignment of the Lime Kiln crossing range lights, near the head of Bois Blanc Island, and will pass through the crossing with the Texas Dock range in one ahead, until reaching the alignment of the Fort Malden range lights which will take her through Ballard's reef channel. The new channel at Lime Kiln crossing will be found clear to a 21 feet depth throughout its width of 300 feet, marked by four red spar buoys on the starboard hand and by the light vessels and two black spar buoys on the port hand."

FREIGHT SITUATION.

The opening of navigation is no nearer than it was ten days ago. Weather conditions in the Lake Superior country have not moderated. If anything, they have grown worse. There has been a constant procession of ice-making days, so that ice is actually thicker now than it was last week. In other respects, too, the weather has been unfavorable, high winds and snow storms prevailing.

Little ore is going forward from the mines and none of the vessels at upper lake ports have endeavored to load as yet. It is no joke to handle the frozen product. The stock piles on Lake Erie docks will probably not be amplified by more than 250,000 tons during April. A scattering cargo or so have reached port from Escanaba, but there is no telling when a cargo will come forward from the head of the lakes. It is clear now that the April movement will be practically nil. The Pittsburg Steamship Co. is making no effort to move its fleet. It has sent two vessels to Lake Michigan with coal, but that is all, the Wawatam and the T. W. Palmer.

The fleet in waiting at Detour is growing slowly, but the majority of owners are content to await more favorable indications before sending their vessels north. It does not necessarily follow that the first vessel to reach Detour will be the first to reach a dock.

SITUATION ON LAKE SUPERIOR.

Port Arthur, April 16.—All hopes of an early opening of navigation have been dissipated by the recent cold weather. With the exception of April 1, it has been very cold since 29th ulto. On several nights the thermometer has gone as low as 6 below zero. It is safe to say that ice has formed rather than melted during the past ten days.

At the present writing the ice field extends in an unbroken expanse clear out to Isle Royale, and down the north shore to Slate Islands. At Thunder cape it is from 24 to 30 inches in thickness. On the 6th inst. Capts. Scagel and Morrison went out as far as the Welcome Islands for the purpose of ascertaining the thickness and condition of the ice. They bored it at various points, and in no instance got a lesser thickness than 32 in. of solid blue ice. This was in the steamboat channel abreast the Welcomes. At some points it was as much as 36 in., the varying depths depending on the amount of snow that covered it during the winter.

The ice-breaker James Whalen broke a way out from her dock here on the 4th inst., and proceeded about half-way to the breakwater, a distance of one-fourth mile in 30 minutes through 2 ft. of solid ice. She made this experimental trip for the purpose of testing some new machinery that has been installed in her this winter. It is the intention of her owners to break a passage to Fort William during the present week for the purpose of taking the steamers W. K. Bixby and Philip Minch, now lying at the Canadian Pacific railroad coal docks, to the Empire elevator to load grain.

The ice in the Kaministiqua river at Fort William averages 20 in. in thickness and does not show any sign of breaking up as yet. This has been an unusually severe winter, more, and heavier ice has formed on the north shore, than during any winter in the past twenty-five years, and unless the weather from now on proves to be exceptionally favorable it will be May 1 before a boat reaches here from the outside.

The elevators at Port Arthur and Fort William are practically filled to their capacity, the loss of the Ogilvie elevator by slipping into the river, and the burning of the working house of Canadian Pacific railroad elevator "D" has been severely felt at Fort William, as it has deprived them of a large amount of storage space. The pressure on the C. P. R. storage capacity is so great that they have rigged up temporary facilities at elevator "D" for transferring wheat from the cars to the storage tanks, which were uninjured by the fire that destroyed the working plant.

The C. P. R. and C. N. R. yards are practically full of grain-laden cars, all inland elevators are full, and a large quantity of the crop of 1906 is still in the hands of western farmers. It is estimated that there is still to come forward, between 20,000,000 and 30,000,000 bushels of last season's crop, in addition to the 11,000,000 bushels of wheat, oats and barley now in store in terminal elevators at Port Arthur and Fort William.

The steamers J. B. Wood and Midland King were loaded during March at the Empire elevator, Fort William.

The Mutual Steamship Co. has been organized at Port Colborne, Ont., with the following board of directors: B. McGillvary, Port Colborne; M. German, Welland; W. E. Phin, Welland; Roy Wolvin, Duluth; J. W. Norcross, Port Colborne. Capt. Norcross will be managing director

---

The Rutland line steamer Ogdensburg stranded at Point Au Barques this week, but was not seriously damaged.

Generated on 2024-08-28 13:28 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

QUERY AND ANSWER.

Editor Ques. and Ans. Dept., MARINE REVIEW:

Question.—Will you please explain how question No. 448 in your Questions for Masters and Mates, and similar ones is worked. I can work this problem on the chart but I understand that it can be worked without chart, parallel ruler and dividers. My informant did not explain how it is done, but intimated that it could be done without laying it off on the chart. If you will answer this in your question and answer department, I will be greatly pleased and consider it a great favor.

A MATE.

Detroit, Mich., Feb., 1907.

Answer.—Problems of this nature can be worked by the process known as square root. They can also be found by inspection from the traverse tables in any epitome of navigation. These traverse tables are merely the solutions of right angled triangles. They are given for all angles and for all lengths (the sides). A right angle triangle is a triangle having one right angle. In traverse sailing one of these right lines stands for the direction of north or south and the other right line for the directions of east and west. The line or side that joins the ends of the other two lines or sides stands for the course and distance. In other words, the right lines of the triangle stand for a meridian and the other for a parallel on the chart or earth's surface. In traverse tables this is called difference of latitude and departure. Difference of latitude meaning northings and southings, that is, distance either north or south; and departure stands for eastings and westings, that is, distance made either east or west. It must be plain to be seen that any course steered making an angle with the meridian must make distance both ways, that is, in the direction of the meridian and also in the direction of a parallel, or eastings and westings. It is the purpose of the traverse tables to show just how difference of latitude and departure is made for every course and for any distance run. By the application of square root we are able to solve the sides of all right angled triangles provided we know any two of the sides, but it will not give us the angles or course. For this we must employ higher mathematics. In right angled triangles the sides are called the base, the perpendicular and the hypotenuse. The base is the side the triangle rests upon. The base and perpendicular are the two smaller, while the hypotenuse is the largest of the sides. The base can be the perpendicular and vice versa, it depending upon how the triangle is made to stand, but the hypotenuse is always the same, being always the longest side. In the traverse tables the hypotenuse is the same thing as the course and distance, or simply the distance. The principle of square root is this: The square of the hypotenuse of a right angled triangle is equal to the sum of the squares of the other two sides. The square of a number is that number multiplied by itself. The square of 5 is 25 (5 × 5). If the square of the hypotenuse is equal to the sum of the squares of the other two sides, it is plain to be seen that the square root of the sum of the squares of base and perpendicular must be equal to the hypotenuse, and so it is. For example. Let the base be 3 (feet, fathoms or miles), and the perpendicular 4, what is the length of the hypotenuse? The square of 3 is 9 and the square of 4 is 16, therefore, the sum of the squares equals 25. The square root of a number is that number which multiplied by itself will produce that square. The square root of 25 is 5, because 5 multiplied by itself will produce 25. Hence, if the base and perpendicular are each 3 and 4, the hypotenuse will be 5. When the base and perpendicular of a right angle triangle are unequal the opposite angles will be less and more than 45 degrees. If one is less than 45 degrees the one opposite will be more than 45 degrees, and vice versa. When both the base and perpendicular are of the same length then both angles opposite them will be equal, each 45 degrees or 4 compass points. The sum of the three angles of every triangle is equal to 180 degrees or 16 points. In all right angled triangles the right angle is always 90 degrees. We always know this so that the other two angles must also equal 90 degrees. If we know one of these we can find the other by subtracting it from 90. A right angle triangle having two of its sides equal is called an isosceles right angled triangle.

The sailing vessel in Question 448 in going north 30 miles and east 30 miles, and the steamer in going direct from the place where the ship started from to the point arrived at form an isosceles right angled triangle, in which the schooner describes the base and perpendicular and the steamer the hypotenuse.

The solution of 448 and similar problems is simply this: Square each side and add them together, and then extract the square root and the answer will equal the length of the hypotenuse, or the distance the steamer will have to run from the place where the ship started from to the point which she arrived at. Thus, the square of 30 is 900 so that twice 900 is 1,800, and the square root of a number is found thus:

```
1800(42.4 answer in miles
 16
 --
80) 200
 2  164
--  ---
82  3600

840) 3600
  4  3376
---  ----
844
```

Note.—To get the new divisor each time double up the quotient as far as found and add to it a cipher, and the number of times it will go add this also to the new divisior, or trial divisor, as it is called. The foregoing example will better explain this. The steamer must run 42.4 miles to reach the place of the ship. We know that the course is 45 degrees or 4 points because equal sides of a triangle give equal angles. If two of the angles are equal they must each be 45 degrees, because the right angle is 90, which is ½ of 180, therefore these two must be equal to 90 degrees in order to make the 180 degrees of every triangle.

In isosceles right angled triangles one of the equal sides is always equal to about 0.7 of the length of the hypotenuse. Hence, if we double up on the length of one of these sides and take 0.7 of it, we will have the length of the hypotenuse. For example, twice 30 is 60 and 0.7 of 60 is 60 × 0.7, or 42. This, of course, is only approximate, but nevertheless, it is close to the truth.

Problem 448 is the same thing as the 4-point bearing, only that the hypotenuse represents the first bearing and one of the equal sides the course and distance and the other equal side the distance the ship is from the object that bore 4 points on the bow and abeam. It is because equal angles of a triangle give equal sides that the 4-point bearing is found so serviceable. In traverse sailing the distance the ship runs north and east would represent the meridian and a parallel of latitude, while the steamer's course and distance would represent the course and distance, as measured by the angle it made with the meridian.

Navigation editor:

Will you kindly state through the columns of MARINE REVIEW the formula for working out the following problem: A steamer steers E 15 miles then N 25 miles. What is her direct

Generated on 2024-08-28 13:30 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

course back and distance? I understand this is one of the questions asked by local inspectors of applicants for license. I noticed an example of this kind in your last list of questions, No. 30, Question 448. A reply will oblige,

Very respectfully,

SUBSCRIBER TO MARINE REVIEW.

Algonac, Mich., 2-25-07.

P. S.—While the above problem has nothing to do with the proper navigation of a steamer, yet the local inspectors ask these and say nothing concerning variation and deviation of the compass, which they are no doubt deficient in themselves.

Answer.—Your problem involves a consideration of the first principles of trigonometry, which require a table of logarithmic sines, tangents and secants for every angle, and also a table of the logarithms of numbers for computing the sides of the triangle. While this is a simple problem in trigonometry it is not necessary that the navigator know trigonometry, because Tables I and II, of Bowditch, solve all possible problems of this kind. Their solutions are found by inspection as already explained. A book containing Tables I and II will likewise contain tables of the logarithmic functions, so that if you have one you have both. The complete navigation tables can be purchased under the title of Useful Tables for $1.25. The work contains some 45 tables in all. Tables I and II are called traverse tables, or solutions of plane right triangles. These tables are used at sea in solving the traverse of a sailing vessel; that is, if a vessel sails a zig-zag course or a compound course the question involved is, what is the course made good from point of departure to point of arrival. These tables are the foundation of all the various sailings, such as middle-latitude, Mercator's, parallel, etc.

The rules for solving the angles and sides of right triangles are simple: Table I is for compass points and is marked at the top with the different courses from ¼ point up to 4 points. In three adjoining columns are found distance, difference of latitude and departure, marked Dist., Lat. and Dep. Table II is the same thing for degrees of the compass from 1 to 45 degrees. Dist., Lat. and Dep. correspond to hypotenuse, perpendicular and base of right triangles. If you have sailed on any particular course for a given number of miles and you desire to know how many minutes you have changed your latitude and also the departure, you seek in Table I for the course steered, and with the distance sailed find it in the distance column, and the number opposite it in the latitude column will stand for the difference of latitude made, and opposite that the number of miles of departure made. In all the sailings these figures represent nautical miles, each mile being equivalent to a minute of latitude. The difference of latitude found for any course and distance sailed, can be applied at once to the latitude started from in order to get the latitude arrived at, but not so with the departure to determine the change in your longitude. It requires a conversion since a nautical mile and a minute of longitude only agree on the equator. The departure represents the actual distance in nautical miles made either east or west, so that before this can be applied to the longtitude started with we must first determine the number of nautical miles in the degree of latitude the ship is in. An example will better explain it: A ship from latitude 43° 03′ N, longitude 87° 50′ W (from Milwaukee toward Pt. Betsey) sailed NE by N 120 nautical miles, what is her new latitude and longitude? NE by N being a 3-point course we look in Table I under 3-point course and with 120 in the distance column we find opposite it 99.8 difference of latitude and 66.7 departure. In other words the ship has made what would be equal to a due north course of 99.8 nautical miles, or she has changed her latitude by 99.8′ or 99′ 48″; equals 1° 39′ 48″, therefore, the new latitude is:

Lat. left	43° 03′ 00″ N	
Diff. Lat.	1° 39′ 48″ N	(add because [we increased [our latitude.)
Lat. in	44° 42′ 48″ N	

Now, the ship made 66.7 nautical miles of eastings but she did not change her longitude to the east that number of minutes. To determine this we must first find the middle latitude and from it find the number of miles in a degree of latitude on that parallel, or what one nautical mile is equivalent to in minutes of longitude. Therefore,

	43°	03′ 00″
	44	42 48
2)	87	45 48
Middle Lat.	43	52 54 = practically [44°.

A degree of longitude in latitude 44° is equal to 43.2 nautical miles (from Table IV, Useful Tables), 1′ equals 0.72 mile; or 1 nautical mile in latitude 44 is equivalent to 1.38′, or 1′ 23″. In other words, for every mile of departure made in latitude 44 the longitude is changed by 1′ 22″. If 1 mile is equivalent to 1.38′, then 66.7 miles would be equivalent to 66.7 × 138′, equals practically 91′ or 1° 31′. Hence, the longitude started from is decreased by this amount since the ship made her departure to the eastward in a west longitude.

Long. left	87° 50′ W
Diff. long.	1° 31′ E (sub)
Long.	86° 19′ W

This diff. of long. can be found in another way. The proportions of right-angled triangles are such that all you have to do is to obey the following rule: Find the number of degrees of your middle latitude at the top or bottom of Table II., and seek in the diff. lat. column for the amount of your dep. Opposite to it in the dist. column will be the figures indicating the number of minutes in the diff. of long., which apply direct. The above example worked in this manner gives something over 92 minutes. The first method is the more exact, but the second way is near enough to the truth to answer in practice.

At 4 points diff. of lat. and dep. become equal, because the course is precisely half way between no points and 8 points. On any course less than 4 points diff. lat. is greater than dep., because you go more north or south than east or west. On any course greater than 4 points dep. is greater than diff. lat., because you go more east or west than north or south. And the relations of the two elements are simply reversed, as may be seen by Figs. 1 and 2.

In a 2-point course, the diff. lat. is the same as the dep. in a 6-point course, the complement of a 2-point course. Hence, in using the tables, as soon as you have a course over 4 points, you begin at the last page and read up from the bottom, noting that while the distance remains in the last column, lat. and dep. are reversed.

To get the course and distance (angle and hypotenuse) the diff. lat. and dep. being given (same as perpendicular and base) do as follows: With diff. lat. and dep. seek in either Table I or II for the page where the diff. lat. and dep. stand beside one another in their respective columns. The required distance will stand opposite in the dist. column, and the course either at the top or bottom of the page according as diff. lat. or dep. is the greater. Take the problem you ask the solution of; 25 miles represents diff. lat. and 15 miles dep. We look in the table and find where these two numbers will agree side by side. For the page this agrees on opposite these numbers in

Generated on 2024-08-28 13:30 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

the distance column will be found the distance to be sailed to get back from starting place and the angle or course found on the top of the page will be the course to steer; 25 and 15 will be found under Diff. of Lat. and Dep. for 2¾ points, and opposite them in the distance column stands 29; 29 represents the distance the steamer must run in order to return to the place of starting after having run 15 miles east and 25 miles north. The course of 2¾ points means 2¾ points from the meridian. The course must be SSW ¾ W, since the ship went east and north and to return she must come west and south; 29 in the dist. column for 2¾ points stands opposite 24.9 and 14.9, so that for 15 and 25 the distance would be a trifle greater than 29 miles; 15 and 25 may stand for base and perpendicular and 29 the hypotenuse of a right triangle. If your ship had steered east 25 miles and then north 15 miles the distance back would be the same thing but the course would be SW by W¼W, a 5 ¼-pt. course, the complement of 2¾ points (8-2¾).

The simplest way of working these examples is to project them on a chart and then measure the distance off and run the course off with the parallel ruler. A protractor and scale of equal parts can be used likewise. An inspector has no good right to ask such questions, unless he permits the applicant to use the chart and work the problem by construction. An inspector only shows his ignorance in asking such questions.

(To be continued.)

CANADIAN GRAIN SHIPMENTS.

Editor MARINE REVIEW, Sir:—Below please find statement of the grain shipments out of Port Arthur and Fort William for the season of 1906. These figures do not include the grain carried by the steamers of the Canadian Pacific Railway, or the regular liners of the Northern Navigation Co. They are, however, near enough to give a clear idea of the amount of grain that has been moved out of these ports.

The statement also shows the amount of grain moved in foreign bottoms, and the various ports to which the grain has been consigned.

Total grain shipments	47,423,600 bus.
Total wheat shipments	41,365,319 bus.
Total oat shipments	4,922,688 bus.
Total barley shipments	674,848 bus.
Total flax shipments	335,145 bus.
Total screening shipments	125,600 bus.
Total grain carried in Canadian bottoms	36,467,835 bus.
Total grain carried in foreign bottoms	10,955,765 bus.
Total carried in Canadian bottoms to:	
Buffalo	2,454,545 bus.
Port Huron	535,000 bus.
Erie	238,000 bus.
Midland	4,270,000 bus.
Kingston	9,443,148 bus.
Montreal	3,801,760 bus.
Point Edward	1,574,007 bus.
Depot Harbor	5,282,371 bus.
Owen Sound	3,840,455 bus.
Pt. Stanley	169,000 bus.
Sarnia	351,000 bus.
Pt. Colborne	184,000 bus.
Collingwood	625,000 bus.
Goderich	1,682,919 bus.
Thorold	450,000 bus.
Meaford	1,500,240 bus.
Prescott	66,000 bus.

Total carried in foreign bottoms to:	
Buffalo	9,905,399 bus.
Port Huron	485,640 bus.
Erie	439,126 bus.
Chicago	125,600 bus.

J. J. O'CONNOR.

Port Arthur, April 8.

HAMBURG-AMERICAN PROGRESS.

The following comparative figures for twelve years of the Hamburg-American line show at a glance the figures of the great German company:

Year.	Gross Profits.	Gross Profits in Percentage of Gross Capital.	Depreciation written off.
1906	£1,850,000	24	£1,350,000
1905	2,000,000	27	1,200,000
1904	1,550,000	23	900,000
1903	1,150,000	17	700,000
1902	950,000	14	550,000
1901	1,100,000	18½	700,000
1900	1,250,000	27½	750,000
1899	900,000	24½	600,000
1898	750,000	24	500,000
1897	450,000	17	300,000
1896	450,000	21	300,000
1895	300,000	15	200,000

Year.	Percentage Book Value of Capital.	Percentage of the Ocean Steamers.	Dividend.	Open Voyages.
1906	18	18	10	£700,000
1905	16	15	11	600,000
1904	13	12	9	750,000
1903	10	9	6	300,000
1902	8	8	4½	150,000
1901	12	10	6	250,000
1900	16	14	10	350,000
1899	16	14	8	15,000
1898	16	14	8	40,000
1897	10	9	6	80,000
1896	14	12	8	75,000
1895	10	9	5	20,000

Year.	Ocean Steamers. Working. Gross Reg. Tons.	Building.	Total Capital Liabilities.
1906	740,000	141,000	£7,600,000
1905	692,000	81,000	7,450,000
1904	615,000	110,000	6,850,000
1903	622,000	72,000	6,900,000
1902	578,000	42,000	6,950,000
1901	552,000	78,000	5,950,000
1900	478,000	99,000	4,600,000
1899	336,000	179,000	3,800,000
1898	263,000	129,000	3,150,000
1897	250,000	73,000	2,900,000
1896	231,000	61,000	2,150,000
1895	.....	.....	2,200,000

SUBMARINE SIGNALS ON THE LAKES.

On Saturday, April 13, a test of submarine signals was made on the Pittsburg Steamship Co.'s steamship, George W. Perkins, 6,400 tons. Special apparatus has been devised for these lake vessels, which have a light draught forward. The tests were satisfactory in every particular, and work on lake vessels is being pushed.

MARINE GAS PROPULSION.

"Marine Gas Propulsion in Relation to Imperial Commerce and Defence" was the title of a long paper read before the Manchester Association of Engineers, recently, by Mr. A. Vennall Coster. The main difficulties, the author enumerated as: (1) The construction of a gas producer able to gasify all grades of bituminous coal; (2) a simple method to cleanse the gas from tar, either before the introduction of the fuel into the producer proper, when in the producer, or after the gas had left the producer on its way to the engine; (3) perfect control of the gas-propelled vessel in starting, stopping, reversing, and running at all speeds. Dealing with No. 1 and No. 2, he said that if anthracite coal or coke were used these difficulties were entirely avoided, but with a limited supply of anthracite the wisest course was to leave it out of the question altogether. For marine purposes they must deal with the ordinary coal that might be obtained, not only in Wales, but in various parts of the United Kingdom and the many coal fields scattered about the world. Bituminous coal was cheap compared with either anthracite or coke, and was the only possible fuel for marine gas producers. Its thermal value varied from 10,000 B. T. U. to 14,000 B. T. U. per pound, and cost from 6s to 7s per ton. For many years gas engines had been driven by bituminous coal gas, and the difficulty had always been to get rid of the condensable hydrocarbons which filled and clogged the valves and gas passages of any engine they were allowed to enter. This problem was one to be faced rather by our chemists than by our engineers, and many notable firms had already solved the problem, but not in that simple manner that made the gas plant perfectly suitable for marine purposes. It was reported from several trustworthy sources that a simple solution had been discovered.

Then there was the necessity of dealing with the many grades of bituminous coal, some suitable, many unsuitable. Shipowners would have to insist on a correct analysis being supplied prior to delivery so as to ensure gas-producing qualities. There were also other difficulties within the producer itself, in the behavior of the coal when heated up. Bituminous coal might be either of the caking of non-caking variety, and although of very similar composition these behaved very differently under treatment. The non-caking varieties were more suitable for their purpose and made the best gas, whereas the caking coal often led to the formation of a hollow fire, with the result that the gas produced was of poor quality. It had been proposed to coke the bituminous coal before introducing it into the gas producer, so

Generated on 2024-08-28 13:30 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

as to reduce the percentage of hydrocarbons to a minimum and prevent caking in the producer.

In these problems there was much for the consideration of the best trained intelligence that we possessed. In the cargo vessel, the Lord Antrim, were gas producers in which the upper part of the furnace was worked with a down draught, and the lower part with an up draught, the gas being drawn off at the center on the suction principle. The raw fuel was introduced at the top, and was coked as it settled down towards the gas outlet; the hydrocarbon or tarry vapors in the meantime were either destroyed, or converted into fixed gases when passing through the incandescent fuel to outlet. There were primary and secondary hot air supplies; the latter, drawn up from the producer base, was charged with steam vapor, and gas was made on its passage through the coked fuel; the gas afterwards was thoroughly sprayed and finally cleansed in coke, sawdust or wood wool scrubbers. It was already known that a successful bituminous coal suction producer, something on these lines, would soon be made public.

In the drawings which Mr. H. Cherry had been good enough to put at his disposal, the cleaning of the gas was wholly done after it had left the producer, by means of wet coke-scrubbers, wood-wool scrubbers, and the like, but as suggested, the tar might be utilized by burning it in the producer itself, increasing the efficiency and simplicity of the plant. The plentiful supply of water was a very great advantage in the cooling and cleaning of the gas, for sea water would have no deleterious effect upon it; also the small quantity of steam vapor required for its manufacture might be obtained from the same unfailing source, and there would be no necessity to store fresh water or filtering apparatus as was usual with steam boilers. Again, as regarded size of fuel, a colliery owner informed him that bituminous coal could be supplied direct from the mines of suitable size, as was done with anthracite pea:, at a slightly increased cost; or the vessel itself could carry its own crusher to deal with the coal before delivery into the producer hopper.

With regard to the third difficulty—perfect control of a gas-propelled vess l is our next consideration—one of the main difficulties that confronted the gas engineer in applying gas engines for marine purposes was that of reversing. With small powers it was possible to reverse by means of a reversible propeller, the engine having only one direction of rotation. There was naturally a very serious objection to putting the reversing gear in so inaccessible a position as in the propeller, but at the same time there was undoubtedly a future for this type for river and coast work, if made simpler and more reliable. One of the great advantages of this type in connection with suction gas plants, was that the engine continued to run while the vessel was being reversed, slowed down, or stopped altogether; and the advantage was this, that the heat in the producer was sufficiently maintained by the continued working of the engine for the production of good working gas.

The main disadvantage with these reversible bladed propellers was a mechanical one, for after a spell of work the bearings in the propeller boss, in which the movable blades were mounted, got worn, the blades lost their alignment and were liable to jam when the gear attempted to move them, and however great the care in design, sea water sooner or later got within the boss and injured the gear. Mr. Vennell Coster showed a new type of reversible propeller in which the gear was designed to work in the water. It was, he said, of so simple a construction (with all bearings of anti-corrosive anti-friction metal), that it could with safety be applied to higher powers than those usually allowed in present-day practice with reversible propellers. The blades were mounted on fixed pivots with a bearing supporting the blade where the greatest load was applied, and therefore, even if the blade was slack on its bearing, there was no fear of jamming or getting materially out of line. This arrangement also made the removal of a blade and its replacement a very simple matter indeed, and it could be accomplished without docking the vessel, if light. For higher powers up to, say, 500 H. P. units there was another system in vogue for reversing the propeller, viz.: A reversing gear, which might be a combination of bevel or spur gear and friction clutches, and was fitted somewhere on the propeller shaft within the vessel and in an accessible position. With this type it was customary when driving ahead for the bevel or spur wheels to be out of gear. These only came into operation when going astern. There were many patented examples, by well known makers, of this method of reversing, which had the same advantage as the reversible propeller in that the engine only ran in one direction, and might continue to run whether the vessel was moving or not. But for powers above 500 H. P. the gas engines themselves must be made to reverse, for that dispensed with expensive and complicated clutches. Mr. J. T. Milton, a vice president of the Institution of Naval Architects, had said in connection with this matter "that marine engineers who are used to big engines think the inclusion of clutches a very serious proposal; they are not used to clutches If the clutch gets out of order then the screw is done for. For sea-going ships we want a rigid connection between engine and screw, the engine must have direct drive and be reversible." There were many methods of doing this. Mr. Cherry, in his designs of marine gas engines, showed one system in which he had double sets of cams and rollers, controlled by a reversing link, while Messrs. Crossley and Messrs. Thornycroft rotated the cam shafts. There was no practical difficulty in reversing the gas engine provided a sufficient reservoir of compressed air was at command.

GREAT INCREASE OF TONNAGE.

The ship building returns from all parts of the world show that the year has been very much busier than last year. The total output, according to our figures, consisted of 2,792 vessels of 3,353,807 tons and 3,158,664 I. H. P. This is an advance of 399 vessels, 409,877 tons and 689,159 I. H. P. The following table shows the work of the year in the United Kingdom, the Colonies, and foreign countries:

	1906.		1905.		
	Vessels.	Tons.	I. H. P.	Vessels.	Tons.	I. H. P.
Scotland	511	658,830	670,431	412	587,932	566,097
England	882	1,193,881	1,028,352	793	1,073,309	819.481
Ireland	28	149,860	147,200	31	144.727	116,281
U. K. totals	1,421	2,002,571	1,845,983	1,236	1,805.968	1,501,859
Colonial	109	28,782	18,395	64	10,610	5.038
Foreign	1,262	1,322,454	1,294,286	1,093	1.127,352	962,608
	2,792	3,353,807	3,158,664	2,393	2,943,930	2,469,505

Owing to great increase of business, the Bird-Archer Co. has this last week moved its offices from 209 Washington street to the new West Street building, at 90 West Street, New York. The sumptuously furnished offices of suite 15 on the twelfth floor of that building will be the future headquarters of this company. For the present the warehouse at 209 Washington street will be retained until completion of the new factory and laboratories now building in Jersey City, for the manufacture of the well-known Bird-Archer boiler compounds. The company has recently issued a new pamphlet relating to the causes, effects and remedies of scale, grease and corrosion in stationary boilers, and will be pleased to forward a copy of this publication to all interested.

Generated on 2024-08-28 13:30 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

LIABILITY OF VESSELS FOR INJURIES CAUSED BY COLLISION.

When a collision happens by inevitable accident, without fault or blame on either side, or when it is impossible to ascertain with any reasonable certainty by whose fault it occurred, the misfortune must be borne by the party on whom it happens to light, and if both vessels are injured each must bear its own loss. An inevitable accident is an occurrence which the party charged with the collision could not possibly have prevented by the exercise of ordinary care, caution and maritime skill. A collision resulting from the darkness of the night, and without the fault of either party, is an inevitable accident. Where the master of a ship takes all such precautions as a man of ordinary prudence and skill, exercising reasonable foresight, would use to avert danger, his owners will not be held responsible because he may have omitted some precautions which the event suggests that he might have resorted to.

When both parties are in fault the rule in courts of admiralty is, that the loss shall be equally divided between them. In a case decided by one of the courts, the schooner which was sunk by the collision and the steamer that sank her, saw each other at a distance of a mile or a mile and a half. The schooner was unskillfully handled, and by reason of such unskillfulness the collision occurred. The court found, that when the steamer saw the unskillful and dangerous way in which the schooner was being navigated, she did not use due and timely caution nor proper measures to prevent the impending danger, and it found as a conclusion of law, that where a collision is caused by the fault of both vessels, the damages and costs are to be equally divided. The same rule was applied in a case where a schooner, lying across the end of a pier, left her inshore anchor hanging with the flukes under water, and a canal boat, having occasion to haul up to the pier, caught her stern on the anchor and was damaged so that she sank. And also in a case where a riparian land owner erected a pier out into a river in such a manner that it was an obstruction to navigation, and the vessel ran against it and was damaged, the riparian proprietor was held to be in fault because his pier was an obstruction to navigation, and the vessel was in fault because her pilot was ignorant of the obstruction.

Where one vessel only is in fault the rule is, that she shall bear her own loss, and be held liable for the damage sustained by the other vessel. In a case before the United States supreme court a small schooner was lying inside the Delaware breakwater, without any watch on deck. Vessels were continually coming in for shelter from an approaching storm, and one of them, without any fault or negligence on her part, collided with the schooner and injured her. It was found that if there had been a watch on the deck of the schooner, the collision might have been avoided, and the court decided that the schooner should bear her own loss, and that the vessel colliding with her was not liable. In another case it was decided that the law imposes upon the vessel having the wind free the obligation of taking proper measure to get out of the way of a vessel that is close hauled, and if she fails to show that she has done this, she will be held liable for all the loss that ensues. In still another case the court decided that where by collision one vessel is left helpless in the track of navigation, and on the following day is injured by a passing vessel, the vessel in fault in the original collision is liable for the cost of repairing the injuries received by the disabled vessel in the second collision.

(To be Continued.)

COURT OPINIONS.

COLLISION.—The large freight steamer Lake Shore was swinging out from her dock in Buffalo river to start on her trip up the lakes as a steam barge was entering the river, 1,000 ft. distant. The barge, seeing that the steamer was moving, gave her a signal of one whistle to pass port and port, which, not being answered was repeated. The Lake Shore about that time sounded two whistles, but the barge, which was going to starboard, immediately blew an alarm, and repeated her one blast, which was then acceded to by the steamer. At this time the barge was 100 ft. distant, with her helm hard a-port and her engine stopped. The steamer, however, continued her swing to port, and struck the barge on her port bow.

The district court for the western district of New York held that on the evidence the Lake Shore was solely in fault for failing to maintain an efficient lookout or to promptly stop her swing after assenting to the signal of the barge, as she might have done, and that the barge was not in fault, having stopped her engine and being so close to the south pier as she could safely go.

NEED OF EMERGENCY LIGHTS.

Editor MARINE REVIEW:—The engineering number of THE MARINE REVIEW reached me Saturday 7th inst.; Sunday I read your editorial "The Happening of the Unexpected." One of the first items that caught my eye in *The Sun* of Monday was the enclosed clipping on exactly the same matter. I thought this coincidence might interest you. BOOTLE.

Brooklyn, N. Y.

AN EVIDENT NEED IN THE SUBWAY.

To the Editor of *The Sun*—Sir: I was in a subway express train that left the bridge about 9 o'clock a. m. When we were below Astor place the train was stopped, and after a few minutes the lights went out, and we were in total darkness for some minutes.

It seems to me that the Interborough company should be compelled to place lanterns within reach of every guard on the train, so that they might be used in such cases. Even if there is no apparent danger to passengers, when a train is in utter darkness and remains so for several minutes a slight disturbance of any kind might start a panic; and any one can readily imagine what the result would be.

If any one became suddenly sick or a woman fainted there would be nothing to do but to strike matches until a lantern could be got either from the front or the back of the train. I think it is highly important that this matter should be agitated and the Interborough company compelled in some way to make proper provision for the passengers, so far as lights are concerned, in case the electric lights go out. GEORGE S. BROWN.

New York, April 6.

The Western Transit Co., of Buffalo, owner of the steamer Troy, which collided with the Interstate bridge at Duluth last summer, has won the preliminary legal skirmish with the Great Northern road. The case came up for hearing before Judge Sanborn in the United States district court at Madison, Wis. The attorney for the steamship company argued that an admiralty court had no jurisdiction to try a case of a vessel colliding with a fixed object. Judge Sanborn held for the steamship company and the owners of the Interstate bridge have appealed to the United States supreme court. H. R. Spencer, of Duluth, represented the Western Transit Co., and C. E. Kremer, of Chicago, the Great Northern road.

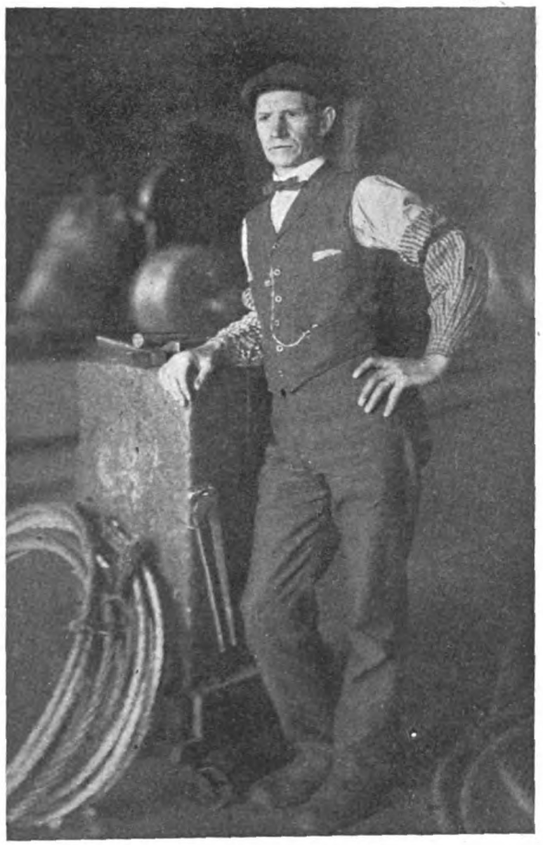
The steamer W. J. Carter has been sold by John Hall, the Buffalo vessel agent, to the Churchill Lumber Co., of Alpena, Mich.

Generated on 2024-08-28 13:28 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

CHARLES O. ANDERSON.

Practically every master and engineer engaged in the bulk freight trade of the lakes will recognize the pictures published on this page. Charles O. Anderson, or "Charley" as he is familiarly known to the trade, has been the boss rigger of the Upson-Walton Co. for the past twenty years and undoubtedly has the distinction of having fitted out more vessels than any man now living in the United States. During the past three years he has fitted out from twenty-seven to thirty-six ships per annum. During the past fifteen years he has fitted out 191 vessels. Since the Upson-Walton Co. established their business thirty-six years ago, they have only had three boss riggers, John McGean, Wm. Patterson and Charles O. Anderson.

Anderson was born at Christiania, Norway. He took, like nearly all of his race, naturally to the sea, and started sailing shortly after he had passed his fourteenth birthday. His deep-sea sailing was exclusively on sailing ships and he was boatswain of a barkentine at the age of nineteen. Over twenty years ago he came to the lakes and took a job aboard the schooner Samuel Tilden. He then became mate of the schooner John O'Neil, schooner Kimball and schooner Melvin S. Bacon. His last experience afloat was as mate of the whaleback barge Sagamore. He left her to enter the rigging department of the Upson-Walton Co. Rigging in those days meant rigging, and Anderson had charge of a large gang of men rigging the schooners that were built at Quayle's ship yard in Cleveland. With the gradual evolution from sail to steam he has added other departments to his trade, and now sees that everything is put aboard ship, rigging, steering cables, tow lines, anchors and in fact practically everything except the machinery. The illustrations herewith show Anderson making an eye splice in a wire cable. The largest cable he ever spliced was a 7-in. one. He is an excellent workman in every particular.



CHARLES O. ANDERSON.

MAKING AN EYE SPLICE.

LUMBER TOWS.

Tows of the Tonawanda lumber carrying vessels for the season of 1907 have been made up as follows: Steamer John Pridgeon, schooners J. I. Case and Melville Bacon, steamer Lycoming, barges Sweetheart and Buffalo, steamer Fred E. Meyers, barges Hutchinson and Commodore, steamer Aztec, barge Miztec, steamer W. H. Sawyer, barges Redfern and A. C. Tuxbury, steamer Cormorant, barge Helvetia, steamer L. L. Barth, barge S. E. Marvin, steamer T. R. Weihe, barge City of Chicago, steamer Oscoda, barges Ida Corning and D. L. Filer, Edward Hines, barge Ashland, steamer S. C. Hall, barge Sam Flint.

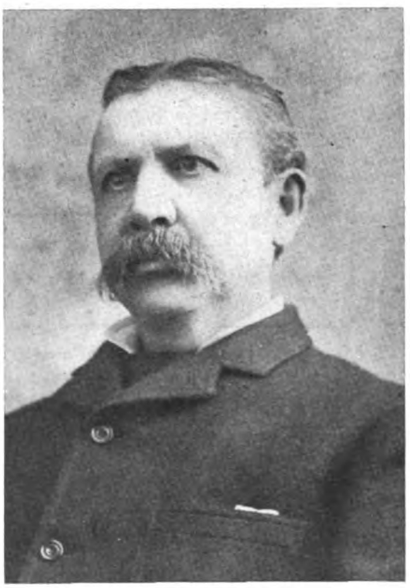
Steamer C. H. Bradley, barges Brightie and Woolson, steamer Buel, barge Eleanor, steamer A. Weston, barge A. Steward, steamer United Lumberman, barges Jennett and H. M. Stanley, steamer W. R. Stafford, barge McWilliams, steamer Toltec, barge Thomas Gawn, steamer Charles H. Green, barges Our Son and Genia, steamer Ed Smith, barges Iron City and Grace Holland, steamer George King, barge Teutonia, steamer S. K. Martin, barge Dorcas Bendall, steamer Zillah, barges Delaware and Jenness, steamer Myron, barges Goshawk, Peshtigo and Page, steamer J. C. Pringle, barges Unadilla, Mohegan and Mingoe, steamer Pawnee, Edwards and Young, steamer Donaldson, barge Wright.

Steamers that will run alone are: Peshtigo, Gettysburg, Three Brothers, Stephenson, H. E. Runnels, Kongo, J. B. Ketchum and T. S. Christie.

Generated on 2024-08-28 13:27 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

SANDUSKY'S DREAM OF GREATNESS.

Sandusky is not in any sense of the word a great receiving port, as they are known today, but there is no doubt if the late W. D. Crane, of New York, had had his way, she would excel or at least equal the best rec-



THE LATE W. D. CRANE.

ords of Ashtabula, Conneaut or Cleveland. He had formulated plans back in 1887 which brought ridicule on him, but time has proved most conclusively that he knew only too well the future possibilities of lake commerce. In one way or another, every idea he then advanced to the leading railroad, blast furnace, grain and mining men of the country has not only been carried out but exceeded beyond what his fondest hopes were. The fact remains, however, that he was unable to finance his proposed enterprises, though they had strong indorsement from influential men.

Mr. Crane would have made Sandusky what it is only possible for a port like Erie to be—the greatest ore receiving and coal shipping port on the lakes. His plans embodied first of all a railroad to the Mohawk valley and Coshocton to tap the coal fields and bring ore to the blast furnaces. This railway was to run to Sandusky where ore, coal and lumber docks and elevators were to be constructed. Coincident with the dock and elevator plans, were a ship building plant and dry docks and a fleet of thirty 3,000-ton steel freighters. This general plan, according to his estimates, required an investment of $18,500,000 and a bond flotation of $16,500,000, making $35,000,000 in all.

Nothing ever came of such elaborate plans but an interval of nearly twenty years reveals the fact that W. D. Crane was just that far ahead of his time. Coal railroads which also haul iron ore to the blast furnaces have docks at all the important ports on Lake Erie, and at the present day, nearly all the docks are behind in unloading and loading facilities. Three thousand ton steel boats looked big then, but it was not many years later that the ship yards commenced to turn them out, and now the lakes boast of 605-footers, with longer boats considered practical. With a fleet of thirty steel carriers, the course of recent events might have been different. With her land-locked harbor, it is no exaggeration to suppose that Crane's fleet would have been the nucleus for a steel corporation fleet, and Sandusky another Conneaut.

Crane, according to his intimate friends, was enthusiastic in predicting success for his enterprises. He calculated that it cost too much to transport ore in the '80's and he was wise enough to realize that too much time was wasted in poor dispatch. He went ahead on the assumption that the ore production or rather the ore movement would be greater if transportation were cheaper and more expeditious. He seemed to be able to foresee the tremendous increase in the movement, and his knowledge of steamboats taught him that the available tonnage at that time was inadequate for the demands which would be made on it. The other features of his comprehensive scheme were but links in a chain.

Crane differed from the present day vesselmen by planning his boats to accommodate the existing depth of the Duluth to Buffalo channel instead of trying to have the government accommodate the channels to the boats. He figured on a 17 ft. draught. He also planned on sending the boats back light, figuring they could make four trips a month. He contemplated using water ballast, unless conditions warranted loading coal back. His scheme was to unload and load with the least possible delay at the same wharf. At that time, he could see that the ore trade, alone, would be extensive enough in years to come to keep his boats busy all season. In fact, it is now stated by one of his friends that he then predicted a movement of 15,000,000 tons of ore in the next five years. In twenty years, the total nearly reached forty millions.

Some of the most prominent ore men in Cleveland heartily endorsed Crane's ideas, and the city of Sandusky was also a supporter to the extent of a perpetual land grant of some ninety acres and $200,000 in cash. The docks, elevators, ship building plant and dry docks were to be constructed in the southeast end of Sandusky bay on what is known as Big Field point. The docks were to go just east of the marine railway now operated by the Lake Erie Dry Dock & Mill Co. The transportation company was to be called the "Great Lakes Transit Co.," and the terminal company was to be known as the "East Battery Terminal Co." Both were to be capitalized at $6,000,000 and $3,000,000 with $8,000,000 five per cent bonds. The rail-

VIEW OF SANDUSKY LAKE FRONT WITH BALTIMORE & OHIO ELEVATOR, COAL AND ORE DOCKS IN FOREGROUND.

Generated on 2024-08-28 13:33 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

road enterprise and the ship bu
plant made up the balance o
$35,000,000.

When Crane was using his be
forts to launch his gigantic sc
the grain trade cut a bigger figu
the lake commerce than it does
In fact, the blast furnace men
peared to think they would
squeezed on high ore rates at almo
time on this account. As it wa
ore rate from Ashland to Ohio
figured between $2.40 and $2.70,
the Escanaba rate was corre
ingly high. But it was nothing
to see the ore rate boosted 25
and the furnace men and sh
seemed to be in a mood for a
particularly an economical one
Crane proposed to inaugurate
this reason, Crane was able to
several contracts with ore shipp
about a 93-cent average rate
two years he agreed to carry i
Escanaba for 90 cents; Mar
$1.10; Ashland or Two Harbors
A five-cent reduction was to b
the next five years all around, a
shave of five cents was to b
the next four years, five cents
was to be cut off the next two
and for the last two of a 10-y
riod, the rates would be 70 ce
cents and $1. Today, they are
lower than that.

Sandusky lost an immense
of business by Mr. Crane's fai
float his enterprise, but time ha
cated him in a surprising m
Boats larger than he ever drea
sail the lakes now, and haul or
below his contract rate, dry doc
ship building plants are scatte
around the lakes and are making
mous profits for their owners, th
ing stock of the railroads is inad
for the present demands and ma
the receiving docks are now too
The dispatch he laid such stress o
better than it ever was, and a big
percentage of the boats are going back
light, their owners confining themselves strictly to the staple commodity ore. Mr. Crane never dreamed of what would happen at the present time, and yet he was considered visionary and a dreamer when he broached his plans.

"W. D. Crane was one of the most brilliant men in his line I ever saw," declared Thomas B. Hoxsey, a Sandusky attorney and one of Crane's personal friends and associates. "His ability was astounding and nothing seemed too big for him. His comprehensive grasp of every situation enabled him to keep even the smallest detail in mind. He was a natural born

the old [illegible] ers. She is 134 ft. [illegible] ft. beam with 7 ft. depth of hold. She was originally constructed to ply in the fruit trade on the north shore of Sandusky Bay, making Johnson Island and getting up as far as Plaster Bed. She carried the fruit to Sandusky and brought back supplies. The Lakeside and Marblehead railroad stopped this, however, and she is now owned by the Cedar Point Pleasure Resort Co.

Mr. Harry C. Doville, who was a member of the firm of C. P. Gilchrist & Co. is now with the Gilchrist Transportation Co.

[illegible] 500 tons of open-hearth rails at $30 [illegible] reported by the Tennessee Coal, Iron & Railroad Co. Increased demand is noted for new engines and many orders for cars have recently been entered. Shafting, which has been irregular, is much improved. Wire products are enjoying unusual prosperity. The tendency in the scrap and coke market is toward lower prices.

The steel tug Charles E. Williams was launched at Johnston Bros.' yard, Ferrysburg, Mich., last week. This tug is building for the Buffalo Dredging Co. and is 87 ft. over all, 21-ft. beam and 12 ft. deep.

Generated on 2024-08-28 13:29 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

stry she will run in the route of the
ner City of Montreal.

e Canadian steamer Tadousac, which
purchased by the Northern Naviga-
Co., of Ontario, Ltd., Collingwood,
from Waldie & Wright, Toronto,
has been changed from a cargo
to a package freighter, new steel
and gangways having been installed.
name has been changed to Doric,
she will run between Georgian Bay
and Fort William.

e government dredge Burton has
ed a 20-ft. channel through the
half of the bar to the entrance
airport harbor. Vesselmen will
no trouble entering this harbor
ey keep in midchannel to about
nd of the west breakwater and
use the easterly half of the chan-
ntil they pass the end of the piers.

is reported that the Collingwood
Building Co., Collingwood, Ont.,
ecided to greatly increase the ca-
of its plant at Collingwood. It
oposed to construct a new dry
650 ft. long, which will take care
y vessel on the lakes for some
The proposed plans also call
dditional berths for 600-ft. ves-

. Alexander Mackenzie, chief of
eers of the war department, has
nted a special board of engineers
onsider matters referred to it by
hief of engineers relating to pro-
s for the improvement of St.
's Falls." This board consists of
Charles E. L. B. Davis, of Detroit;
Col. C. McD. Townsend, Cleve-
and Major Charles Keller, of De-

ntracts have been let by the Lake
Navigation Co. for the construc-
of a new pier at Cedar Point
hich the steamer Eastland will land
passengers. The pier, which will
00 ft. long, will be built by the
merican Construction Co. at a cost
of about $25,000. The Lake Shore
Navigation Co. is also improving its
new dock at Cleveland immediately
north of the Main street bridge.

The steamer Charles A. Eddy will be sold by the United States marshal at the Federal building, Cleveland, April 29. The Eddy was damaged by fire on Lake Huron last year and was abandoned by the crew. The steamers Meyers, Mundy and Ogdensburg put the fire out and towed the Eddy to Port Huron. Claims were put in by the three vessels, but no agreement could be reached with the Gilchrist Transportation Co., owners of the Eddy, and the steamer will be sold to the highest bidder.

have opened an office in the Rockefeller building, Cleveland. Frank Sullivan, son of Capt. D. Sullivan, is in charge.

The steamer A. G. Lindsay has been sold by the Cleveland Box Co. to Atlantic coast interests. The Lindsay is 196 ft. long, 37 ft. 6 in. beam and 14 ft. 6 in. deep, and was built at Detroit in 1889.

John J. Boland, of Buffalo, has purchased the steel steamer Kensington which was built by the Craigs, at Toledo, in 1903. The Kensington was operated by G. A. Tomlinson, of Duluth, last year.

tons
an hour. The
dock, which will cost $45,000, will be completed July 1.

Capt. John Swainson, who was formerly connected with the *Marine Record*, at Cleveland, has been appointed share sales agent of the Modern Development Co., of Wheeling, W. Va., which is developing 1,000 acres of very promising territory in the southeastern Ohio oil fields.

The former Anchor line steamer India, which was sold to G. E. Jaques & Co., Montreal, Que., has been renamed City of Ottawa. She has been extensively repaired, receiving new boilers and machinery; having been given Canadian

Generated on 2024-08-28 13:31 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

SUMMARY OF NAVAL CONSTRUCTION.

The bureau of construction and repair, navy department, has a constantly diminishing program to report. The battleships Nebraska and Kansas and the armored cruisers South Dakota and California are structurally complete and will soon be taken from the construction list. Following is the program:

NAME OF VESSEL.	BUILDING AT	—1907— PER CENT OF COMPLETION. MARCH 1.	APRIL 1.
BATTLESHIPS.			
Nebraska	Moran Bros. Co.	99.00	99.20
Kansas	New York S. B. Co.	98.00	99.60
Mississippi	Wm. Cramp & Sons.	76.25	81.38
Idaho	Wm. Cramp & Sons.	69.77	73.66
New Hampshire	New York S. B. Co.	63.50	64.70
South Carolina	Wm. Cramp & Sons.	7.74	9.38
Michigan	New York S. B. Co.	8.29	11.10
ARMORED CRUISERS.			
California	Union Iron Works.	98.80	99.60
South Dakota	Union Iron Works.	95.90	97.10
North Carolina	Newport News S. B. Co.	73.28	75.81
Montana	Newport News S. B. Co.	68.26	70.92
SCOUT CRUISERS.			
Chester	Bath Iron Works.	67.79	71.90
Birmingham	Fore River S. B. Co.	64.10	67.40
Salem	Fore River S. B. Co.	64.20	68.30
SUBMARINE TORPEDO BOATS.			
Submarine T. B. No. 9	Fore River S. B. Co.	91.00	91.50
Submarine T. B. No. 10	Fore River S. B. Co.	89.10	90.60
Submarine T. B. No. 11	Fore River S. B. Co.	92.50	92.50
Submarine T. B. No. 12	Fore River S. B. Co.	88.90	90.42
COLLIERS.			
Vestal	Navy Yard, New York.	8.20	11.85
Prometheus	Navy Yard, Mare Island.	0.00	0.70

MARINE PATENTS.

Copies of these patents can be obtained by sending ten cents in stamps to Siggers & Siggers, patent lawyers, suite 11, National Union building, Washington, D. C.

848,872 Submarine or Submergible Boat. Theodorus S. Bailey and Lawrence Y. Spear, Quincy, Mass., assignors to Electric Boat Co., Bayonne, N. J.

848,942. Propeller. John A. Wade, Traverse City, Mich.

848,998. Boat Lowering and Detaching Apparatus. Ole P. E. Knudsen, Seattle, Wash.

849,006. Propelling and Floating Device for Boats and the Like. Hans Mikorey, Schoneberg, Germany.

849,378. Floating Dry Dock. William T. Donnelly, Brooklyn, N. Y.

849,533. Propeller. Andrew Dziedzic, Pasadena, Cal.

849,719. Propeller Adjusting Device. William E. Blair, Buffalo, N. Y., assignor to Buffalo Gasoline Motor Co., Buffalo, N. Y.

850,034. Boat. Uriah R. Miller, Salem, Ohio.

850,054. Telescope for Submarine Boats. Fritz Rehm, Lichtenfels, and Karl Windstosser, Nuremberg, Germany.

BOOK REVIEWS.

"The Memoirs of Charles H. Cramp," by Augustus C. Buell. Philadelphia. J. B. Lippincott Co.

This work is the endeavor to perpetuate the achievement of a career covering three score years of active service in the creation of ships.

Such a remarkable career as that of Charles H. Cramp bespeaks an interesting fund of information and anecdote which has been interestingly put forth in this volume. The facts are well delineated and the illustrations in addition to embellishing the text form no small part of the book's attraction.

"Ten Thousand Miles in a Yacht," by Richard Arthur. New York. E. P. Dutton & Co.

This interesting work describes the voyage of the yacht Virginia, lasting three months, in which time she had visited many places, the objective point being the Amazon.

The fascinating scenes encountered are aptly described and many are charmingly pictured. The work will prove very interesting to nearly all classes of readers.

"Self-Propelled Vehicles," a practical treatise on all forms of automobiles, by James E. Homans, A. M., fifth revised edition, entirely rewritten. New York. Theo. Audel & Co.

New and completely revised this popular book fulfills the requirements of the motor vehicle owner, operator and repairer.

It is admirably suited as an educational treatise and will doubtless be widely used in that field.

"Les Flottes de Combat en 1907," by Commandant de Balincourt. Paris. Berger-Leveault et cie. Size 6 x 4½ in. 776 pages. Illustrated. Price 6 francs.

This is the sixth annual edition of this work and is especially interesting as regards the information on the latest war vessels building or projected. The various types of vessels are illustrated on the left hand page and on the right is the description of her including machinery battery and protection.

The latest battleships of the German English, American, French and Japanese navies are illustrated and described. Much attention is given to torpedo craft.

"The Steam Turbine as Applied to Marine Purposes," by Prof. J. H. Biles, LL. D., of Glasgow University. Illustrated. Philadelphia. J. B. Lippincott Co. Price $2. The book embodies a series of lectures delivered before the Royal Scottish Society of Arts in Edinburgh covering a period from February to March, 1906. There are five chapters including one on the history of turbines. The subject is treated in a manner suited to a public audience rather than to a university class, but it will prove of much interest to the naval architect and marine engineer.

"Boiler Waters, Scale, Corrosion and Foaming," by William Wallace Christie, M. Am. Soc. M. E. Illustrated. New York. D. Van Nostrand Co. This book is a pioneer on this subject in this country and has for its object to furnish to steam users information regarding water and its use and the troubles arising therefrom, remedies being given for these as well as much other information for the more efficient generation of steam. Many of the illustrations are from photographs of boiler parts, the author citing the actual example of boiler failures in various parts of the country. The work is comprehensive and should prove of much value to steam users.

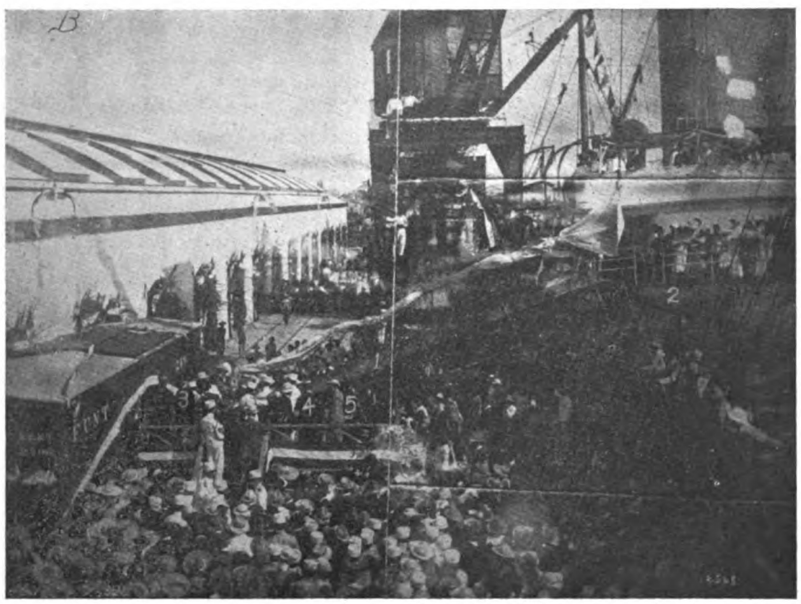
The Union Iron Works Co., San Francisco, Cal., announce that they have opened general engineering and sales offices at Room 207, James Flood building, corner Power and Market streets, San Francisco, Cal., where a complete staff of marine and mining engineers are prepared to furnish estimates, plans, specifications and general information pertaining to marine engine and hull construction and repair, dry docking, steam and electric water power installation. The facilities of the plant for the construction and repair of all classes of marine and mining machinery are very complete.

The National Lead Co., of New York city, will shortly lay up their steam lighter National and equip her with a No. 15 Roberts safety water-tube boiler.

Generated on 2024-08-28 13:26 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

NEW CONVEYOR FOR DOCKS AND STEAMSHIPS.

Capt. W. L. McCabe, of the firm of Hamilton & McCabe, Seattle, Wash., has invented a conveyor that is meeting with much success on the Pacific coast. One of these conveyors was recently installed at Coatzacoalcoz, the Pacific terminus of the Tehuantepec National railway of Mexico. This machine was tested in the presence of President Diaz of Mexico and numerous railroad and steamship officials and was superintended by R. D. Ross, superintendent for McCabe & Hamilton. During the test a car was unloaded and the contents placed aboard a steamer in nine minutes. The car carried thirty tons of sacked sugar. President Diaz expressed himself as well satisfied with the experiment.



SCENE AT OPENING OF TEHUANTEPEC NATIONAL RAILROAD.

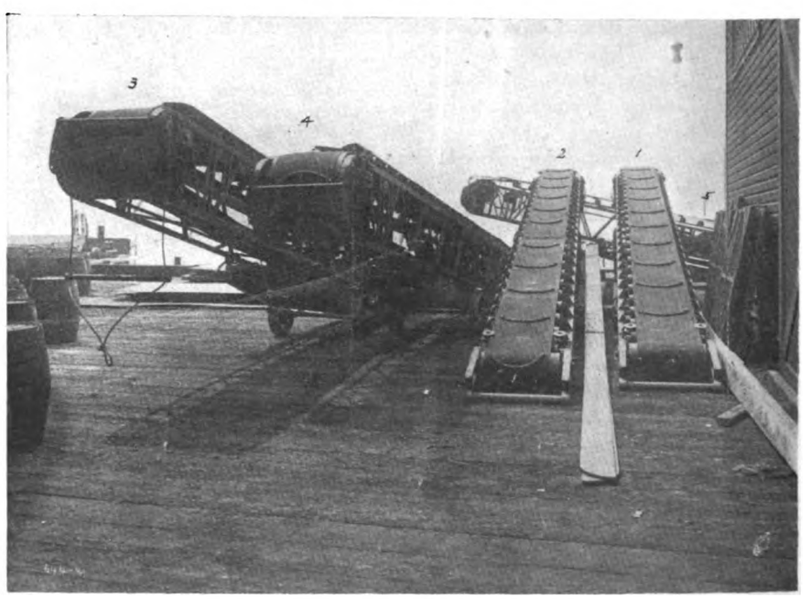
The accompanying photograph represents the scene at the opening, the Tehuantepec National railroad, showing the conveyor extending from the railroad to the steamship. This photograph is unfortunately dark, but the figures on it will enable the reader to understand it. Fig. 1 which is marked on the guide board of the conveyor shows the machine in position ready to start. Fig. 2 shows the friction chute from end of conveyor to hatch. Fig. 3 shows President Diaz breaking seal of car. Fig. 4 is Capt. Burnham, general manager of the American-Hawaiian Steamship Co. Fig. 5 is R. D. Ross, engineer for McCabe & Hamilton. The awning, which is shown furled is for rainy weather and can be pulled down over the conveyor very quickly in case of rain. Photograph B shows five conveyors at Seattle ready for shipment. The guide boards of 1 and 2 are shown alongside of machine and 3 and 4 on top of machine. Fig. 5 shows the motor inside of frame. McCabe & Hamilton are meeting with success in the manufacture of this conveyor.

ITEMS OF GENERAL INTEREST.

The submarine boats Viper and Tarantula, building at the works of the Fore River Ship Building Co., Quincy, Mass., were launched on Saturday, March 30. Mrs. L. Y. Spear, wife of former naval constructor, Mr. L. Y. Spear, christened the Viper, and Mrs. George Radford, wife of the assistant naval constructor, Mr. George Radford, of the United States navy, christened the Tarantula. These two submarines will soon have their trials and be delivered to the United States navy.

The Iroquois Rubber Co., Buffalo, N. Y., have just put out a little folder descriptive of their hose for marine service. The company's non-kink deck hose is constructed with a seamless tube made of the finest grade of rubber and special woven long-fibre duck covered with a strong, braided seamless jacket, painted red. This method of construction adds not only to the hydraulic strength of the hose, but greatly also to its wearing qualities, doing away with the necessity of wire winding. It increases the life of the hose and it reduces to a minimum mechanical motion, kinking, expansion and elongation.

The Key Route Co.'s new ferry-boat Claremont, has just gone into active commission, at San Francisco. A few days ago the Claremont made her trial run on the bay and acquitted herself handsomely in every respect. She is a sister vessel of the Yerba Buena, San Jose, San Francisco. The Claremont proves the fleetest boat belonging to the Key Route fleet, making the run between San Francisco and Key Route Pier in ten minutes. This vessel was built at the Union Iron Works to replace the one recently destroyed by fire. Another sister is being constructed by the Key Route company at the Dickie shipyard at Oakland. This new craft is now more than half completed.



FOUR CONVEYORS READY FOR SHIPMENT.

Generated on 2024-08-28 13:32 GMT / https://hdl.handle.net/2027/mdp.39015043584419
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from UNIVERSITY OF MICHIGAN